

AD A122794

Transport Index Limits for Shipments  
of Radioactive Material  
in Passenger-Carrying Aircraft

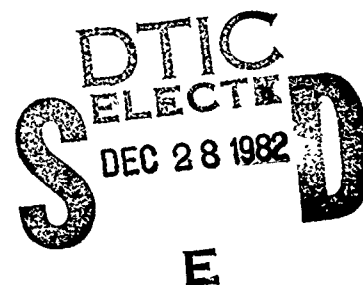
Wallace Friedberg  
Donald N. Faulkner  
Lorrenza Snyder  
Civil Aeromedical Institute  
Federal Aviation Administration  
Oklahoma City, Oklahoma

Fifth Edition  
June 1982



Document is available to the public through the  
National Technical Information Service,  
Springfield, Virginia 22161

Prepared for  
U.S. DEPARTMENT OF TRANSPORTATION  
Federal Aviation Administration  
Office of Aviation Medicine  
Washington, D.C. 20591



FILE COPY

82 12 28 106

NOTICE

This document is disseminated under the sponsorship of the Department of Transportation in the interest of information exchange. The United States Government assumes no liability for its contents or use thereof.

Previous editions of this handbook were entitled "Transport Index Limits for Air Shipments of Radioactive Material" and published by the Transportation Safety Institute, Department of Transportation.

## Technical Report Documentation Page

1. Report No. FAA-AM-82 - 12	2. Government Accession No. AD-A122 794	3. Recipient's Catalog No.	
4. Title and Subtitle TRANSPORT INDEX LIMITS FOR SHIPMENTS OF RADIOACTIVE MATERIAL IN PASSENGER-CARRYING AIRCRAFT		5. Report Date June 1982	
		6. Performing Organization Code	
7. Author(s) Wallace Friedberg, Donald N. Faulkner, and Lorrenza Snyder		8. Performing Organization Report No.	
9. Performing Organization Name and Address FAA Civil Aeromedical Institute P.O. Box 25082 Oklahoma City, Oklahoma 73125		10. Work Unit No. (TRAIS)	
		11. Contract or Grant No.	
12. Sponsoring Agency Name and Address Office of Aviation Medicine Federal Aviation Administration 800 Independence Avenue, S.W. Washington, D.C. 20591		13. Type of Report and Period Covered	
		14. Sponsoring Agency Code	
15. Supplementary Notes Work was performed under Task AM-C-82-TOX-32.			
16. Abstract To limit radiation exposure in passenger-carrying aircraft the Department of Transportation requires operators of such aircraft to exercise special control over packages of radioactive material bearing a "radioactive yellow" label. The degree of control is based on a number called the transport index that is assigned by the shipper and shown on the label. The regulations prescribe minimum separation distances between radioactive cargo and spaces occupied by people or animals. These distances are a function of the sum of the transport indexes of the radioactive cargo. Where an approved system of predesignated areas is in use, the minimum distance between areas where radioactive cargo may be stowed is also prescribed. This handbook contains figures that show, for most types of air carrier aircraft, the cargo compartment dimensions, distances between cargo compartments, and distances between cargo compartments and overhead passenger compartments. It contains charts that show the maximum allowable sum of transport indexes for a cargo area as related to (i) the height of the tallest package with a "radioactive yellow" label in the area, and (ii) the distance between the cargo floor and the passenger floor. It also contains charts for use with a system of predesignated areas that include the distance between predesignated areas as well as items (i) and (ii) above. Solved problems are provided as a teaching aid to facilitate use of the figures and charts in determining the transport index limit for individual cargo areas and for an entire aircraft. The material in this handbook will be useful to FAA inspectors in training and in the field and to airline personnel. ←			
17. Key Words Passenger-carrying Aircraft Radioactive Cargo Transport Index		18. Distribution Statement Document is available to the public through the National Technical Information Service, Springfield, Virginia 22161.	
19. Security Classif. (of this report) Unclassified	20. Security Classif. (of this page) Unclassified	21. No. of Pages 67	22. Price

# ACKNOWLEDGMENT

We are grateful to the aircraft manufacturers and many individuals who provided the data and helped in the preparation of this report. For assistance with this fifth edition our particular thanks to R. B. Deal, Jr., of the University of Oklahoma Health Sciences Center and F. E. Duke of CZ Computer Services.

Accession For	
NTIS GRA&I	<input checked="" type="checkbox"/>
DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A	



## TABLE OF CONTENTS

	<u>Page</u>
1. Introduction	1
2. Transport Index Limits for Individual Packages and Minimum Package Size	1
3. Transport Index Limits for Passenger-Carrying Aircraft Where an Approved System of Predesignated Areas is <u>Not</u> in Use	3
4. Transport Index Limits for Passenger-Carrying Aircraft Where an Approved System of Predesignated Areas is in Use	6
 APPENDIX A. TI-LIMIT CHARTS FOR PASSENGER-CARRYING AIRCRAFT WHERE AN APPROVED SYSTEM OF PREDESIGNATED AREAS IS <u>NOT</u> IN USE	 11
 APPENDIX B. CARGO COMPARTMENT DIMENSIONS AND DISTANCE TO NEAREST PASSENGER OR CREW AREA	 19
Figure 1. BAC-1-11-200/400/500	19
2. B-707-120B/320/320B/420	19
3. B-720/720B	20
4. B-727-100	20
5. B-727-200	21
6. B-737-100	21
7. B-737-200	22
8. B-747/747B	22
9. DHC-6-300	23
10. DC-8-43/55	23
11. DC-8-61/63	24
12. DC-8-62	24
13. DC-9-10/20	25
14. DC-9-30	25
15. DC-9-40	26
16. DC-10-10/20/30/40 (with lower galley)	26
17. DC-10-30 (without lower galley)	27
18. L-188 (except American Airlines)	27
19. L-188 (American Airlines)	28
20. M-404	28
21. YS-11A Piedmont	29
22. YS-11/11A Standard	29
 APPENDIX C. TI-LIMIT CHARTS FOR PASSENGER-CARRYING AIRCRAFT WHERE AN APPROVED SYSTEM OF PREDESIGNATED AREAS IS IN USE	 31

1. INTRODUCTION

Aircraft operators are required to exercise special controls over packages\* of radioactive material with a "radioactive yellow" label. The yellow label indicates that either (a) the dose rate of radiation emanating from the package is sufficiently high to warrant controls limiting exposure of people, animals, and undeveloped film and/or (b) the package contains fissile material in amounts requiring that assembly of such packages in one location be limited for nuclear criticality safety (to avoid a chain reaction). The controls to be employed by the aircraft operator are based on the transport index assigned by the shipper and shown on the "radioactive yellow" label.

2. TRANSPORT INDEX LIMITS FOR INDIVIDUAL PACKAGES AND MINIMUM PACKAGE SIZE

Radioactive material transported aboard passenger-carrying aircraft must be packaged so that the dose rate does not exceed 200 millirem per hour at any point on the external surface of the package and the Transport Index† is not higher than 3.0 (49 CFR 173.393(i) and (g)). These maximum values are permitted only for packages with "radioactive yellow-III" labels‡. For a package with a "radioactive yellow-II" label, the limits are 50 millirem per hour at the package surface and a transport index of 1.0 (49 CFR 172.403(c)(1)).

In addition, 4 inches is the smallest outside package dimension permitted for any shipment of radioactive material (49 CFR 173.393(c)).

\*Throughout this handbook, package refers to a "radioactive yellow" label package or an overpack used to consolidate such packages of radioactive material (49 CFR 172.403(c) and (d), 173.393(r)).

†Except for some shipments of fissile materials (49 CFR 173.389(a)(2)), the transport index is the highest dose rate in millirem per hour at 3 feet from any external surface of the package (49 CFR 173.389(i)(1)).

‡For shipments aboard cargo-only aircraft, the transport index limit is 10 for a package with a radioactive yellow-III label.

Example 1.

Four packages with "radioactive yellow" labels are described below. Based on the limits specified in section 2 above, are they acceptable for transportation aboard passenger-carrying aircraft?

Package	Transport Index	Dimensions (inches)
1. radioactive yellow-II	1.1	40 x 40 x 40
2. " "	0.1	3 x 6 x 6
3. " "	0.4	16 x 16 x 17
4. " yellow-III	3.1	40 x 35 x 25

Package 1 is unacceptable because the transport index (1.1) exceeds the maximum transport index (1.0) permitted for a package with a radioactive yellow-II label.

Package 2 is unacceptable because the minimum dimension is only 3 inches, whereas the smallest dimension allowed is 4 inches.

Package 3 is acceptable.

Package 4 is unacceptable because the transport index (3.1) exceeds the maximum transport index (3.0) permitted for a package transported on a passenger-carrying aircraft.



3. TRANSPORT INDEX LIMITS FOR PASSENGER-CARRYING AIRCRAFT WHERE AN APPROVED SYSTEM OF PREDESIGNATED AREAS IS NOT IN USE

Federal regulations (49 CFR 175.701(a) and (b)) specify the minimum separation distance between packages with "radioactive yellow" labels and areas occupied by people or animals. Where an overhead passenger or crew compartment is the nearest such area, compliance with these regulations can be ascertained as described below. For other arrangements of passenger or crew compartments relative to radioactive cargo, for animals transported in cargo compartments, or for packages marked as containing undeveloped film, the charts are not applicable.

For each cargo area with one or more "radioactive yellow" labeled packages, determine the maximum allowable sum of transport indexes (TI-limit) by use of TI-limit charts in Appendix A. The smallest of the TI-limits, so determined, is the maximum allowable sum of transport indexes of all packages in the entire aircraft. Under no circumstances may the sum of transport indexes of all packages aboard the aircraft exceed 50 in a passenger-carrying aircraft.

The appropriate TI-limit chart for an area is selected on the basis of the minimum distance (inches) between the cargo floor\* and the passenger floor. This separation distance is the chart number. From the information in Appendix B, separation distance between bare cargo compartment floor and passenger floor can be calculated. When "radioactive yellow" packages are on a raised cargo floor (pallet or floor of freight container) the appropriate separation distance (and chart number) is the distance determined by use of Appendix B minus the rise in the cargo floor. The TI-limit for the area is then determined, based on the height of the tallest package with a "radioactive yellow" label in that area.

Sample Chart:

	Max Pkg Ht (Inches)	TI Limit	
			Cargo floor to passenger floor (inches)†
Height of tallest package with a "radioactive yellow" label	4 to 6	7.0	Maximum allowable sum of transport indexes
	>6 to 12	6.0	
	>12 to 18	5.0	
	>18 to 24	4.0	
	>24 to 30	3.0	
	>30 to 38	2.0	
	>38 to 46	1.0	

\*Cargo floor means the surface on which the packages rest (bare compartment floor, pallet, or floor of freight container).

†Drop any fraction of an inch: for example, 58.6 becomes 58.

Example 2.

Three packages with "radioactive yellow" labels are stowed on the bare compartment floor in the forward cargo compartment of a passenger-carrying DC-8:

Package	Package Height (Inches)	Transport Index
1	4	0.2
2	12	1.2
3	14	3.0
		<u>4.4</u>

No other "radioactive yellow" label packages are aboard the aircraft. The minimum distance between the cargo floor and the floor of the overhead passenger cabin is 58 inches (52 plus 6, cargo compartment height plus ceiling thickness).

Is the separation distance between the radioactive cargo and the passengers sufficient to satisfy Federal regulations? Chart 58 (Appendix A) shows that for a maximum package height of 14 inches (package 3, tallest in the area), the TI-limit is 5.0; therefore, the radioactive cargo is sufficiently separated from the passengers to satisfy the regulations.

Note: If the same packages are stowed on a 3-inch high pallet, the separation distance between cargo floor and passenger floor would be (58-3) 55 inches and chart 55 would be the appropriate TI-limit chart. In this circumstance, the TI-limit would still be 5 and the regulations would be satisfied.

Example 3.

In a passenger-carrying B-727, three packages with "radioactive yellow" labels are stowed in the forward cargo compartment and four such packages are stowed in the constant part of the aft cargo compartment.

<u>Package</u>	<u>Package Height (Inches)</u>	<u>Transport Index</u>
----------------	------------------------------------	------------------------

Forward cargo compartment

1	9	0.2
2	12	1.0
3	14	<u>2.0</u>
		3.2

Constant part of aft cargo compartment

4	4	0.6
5	12	2.2
6	12	1.0
7	12	<u>1.4</u>
		5.2

No other "radioactive yellow" packages are aboard the aircraft. The minimum distance between the floor of the forward cargo compartment and the floor of the overhead passenger cabin is 51 inches; the minimum distance between the cargo floor in the constant part of the aft cargo compartment and the floor of the overhead passenger cabin is 61 inches. Is the separation distance between the radioactive cargo and the passengers sufficient to satisfy Federal regulations?

For the forward cargo compartment use chart 51 (Appendix A) since the distance between the cargo floor and passenger floor is 51 inches. Chart 51 shows that for a maximum package height of 14 inches (package 3, tallest in area), the TI-limit is 4.0.

For the constant part of the aft cargo compartment, where the tallest package is 12 inches, chart 61 indicates a TI-limit of 6.0.

The smaller of the two TI-limits is 4.0, which is, therefore, the maximum allowable sum of transport indexes of all packages and overpacks in the entire aircraft. In this example the radioactive cargo actually aboard the aircraft has a total transport index  $(3.2 + 5.2 =) 8.4$ . This value exceeds the allowable limit of 4.0 determined above; hence, the separation of radioactive cargo and areas occupied by people is not sufficient to meet Federal regulations.

4. TRANSPORT INDEX LIMITS FOR PASSENGER-CARRYING AIRCRAFT WHERE AN APPROVED SYSTEM OF PREDESIGNATED AREAS IS IN USE

Implementation of an approved system of predesignated areas as provided by 49 CFR 175.701(c) usually increases the allowable load of radioactive material that may be transported in a passenger-carrying aircraft and without the radiation levels in passenger and crew compartments exceeding allowable limits. Details of the approval procedure are contained in "The Department of Transportation Procedure for Approval of a System of Predesignated Areas for Radioactive Material in Passenger-Carrying Aircraft." This document may be obtained from:

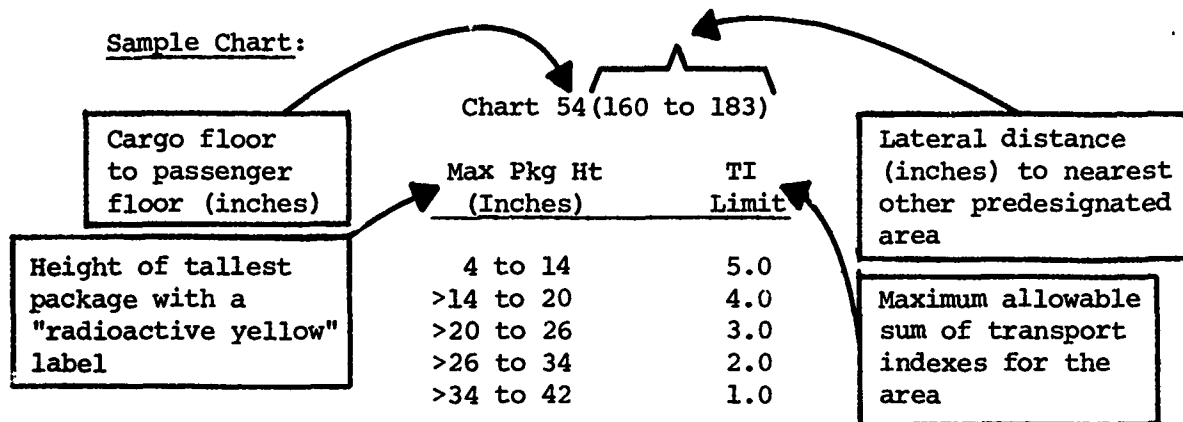
Approvals Branch, DMT-232  
U.S. Department of Transportation  
400 7th Street, S.W.  
Washington, D.C. 20590

Compliance with the required minimum separation distances between radioactive cargo and overhead passenger or crew compartments and the proper spacing of radioactive cargo areas can be ascertained by use of charts in Appendix C. For other arrangements of passenger or crew compartments, for animals transported in cargo compartments, or for packages marked as containing undeveloped film, the charts are not applicable.

The maximum allowable sum of transport indexes (TI-limit) of all packages in a predesignated area is determined by use of the appropriate chart for that area. Under no circumstances may the sum of transport indexes of all packages aboard the aircraft exceed 50 in passenger-carrying aircraft. The chart is selected on the basis of information encoded in the chart number:

- a. The first two digits in the chart number are the minimum distance (inches\*) between the cargo floor and the passenger floor. Cargo floor means that surface on which the "radioactive yellow" packages rest (bare compartment floor, pallet, or floor of freight container).
- b. In parentheses, in the chart number, is the minimum lateral distance (inches\*) to the nearest other predesignated area. Lateral distance is measured between the boundaries of predesignated areas.

\*When considering distance between cargo floor and passenger floor or lateral distance to nearest other predesignated area, drop any fraction of an inch: for example, 54.6 becomes 54.



Example 4.

PART I

Cargo areas A and B in a passenger-carrying aircraft have been predesignated for stowage of "radioactive yellow" label packages. Passenger compartments are above the predesignated areas.

Area A. Cargo floor to passenger floor is 79 inches; lateral distance to nearest other predesignated area (area B) is 513 inches.

Area B. Cargo floor to passenger floor is 75.6 inches; lateral distance to nearest other predesignated area (area A) is 513 inches.

Select the appropriate TI-limit chart (Appendix C) for each of these areas.

For Area A use Chart 79 (292 or more).

For Area B use Chart 75 (276 or more).

## PART II

Nine packages with "radioactive yellow" labels are stowed in the predesignated areas A and B described above.

### Area A

<u>Package</u>	<u>Package Height (Inches)</u>	<u>Transport Index</u>
1	5	0.5
2	12	3.0
3	15	2.1
4	4	0.6
5	9	0.6
		<u>6.8</u>

The maximum package height is 15 inches (package 3, tallest in the area) and the sum of the transport indexes ( $0.5 + 3.0 + 2.1 + 0.6 + 0.6$ ) equals 6.8. Chart 79(292 or more) shows that for a maximum package height of 15 inches the TI-limit is 9.0. The sum of the transport indexes (6.8) does not exceed 9.0; therefore, the radioactive cargo in area A is stowed in accordance with separation distances specified in 49 CFR 175.701.

### Area B

<u>Package</u>	<u>Package Height (Inches)</u>	<u>Transport Index</u>
6	9	2.4
7	12	3.0
8	12	2.0
9	12	3.0
		<u>10.4</u>

The height of the tallest package is 12 inches and the sum of the transport indexes ( $2.4 + 3.0 + 2.0 + 3.0$ ) equals 10.4. Chart 75 (276 or more) shows that for a maximum package height of 12 inches the TI-limit is 9.0. The sum of the transport indexes in area B (10.4) exceeds this limit. One of the packages in this area must be removed.

If package 8 in area B is transferred to area A, the radioactive cargo in both areas will be stowed in accordance with separation distances specified in 49 CFR 175.701.

Example 5. (Simplified loading procedure)

"Radioactive yellow" label packages transported by Flyfast Airlines are 18 inches or less in height. To simplify the loading of such shipments, the airline uses the TI-limit specified for a maximum package height of 18 inches, even though the maximum package height on some flights is less than 18 inches. According to this procedure, what is the TI-limit for a predesignated area where the minimum distance between the cargo floor and the passenger floor is 71 inches and the minimum lateral distance to the nearest other predesignated area is 230 inches?

Chart 71 (228 to 243) shows that for a maximum package height of 18 inches the TI-limit is 7.0. (Note: The TI-limit would be less than 7.0, if any "radioactive yellow" package in the area was more than 19 inches high.)

APPENDIX A. TI-LIMIT CHARTS FOR PASSENGER-CARRYING AIRCRAFT WHERE  
AN APPROVED SYSTEM OF PREDESIGNATED AREAS IS NOT IN USE

CHART 16

Max Pkg Ht (Inches)	TI Limit
4	1.0

CHART 17

Max Pkg Ht (Inches)	TI Limit
4 to 5	1.0

CHART 18

Max Pkg Ht (Inches)	TI Limit
4 to 6	1.0

CHART 19

Max Pkg Ht (Inches)	TI Limit
4 to 7	1.0

CHART 20

Max Pkg Ht (Inches)	TI Limit
4 to 8	1.0

CHART 21

Max Pkg Ht (Inches)	TI Limit
4 to 9	1.0

CHART 22

Max Pkg Ht (Inches)	TI Limit
4 to 10	1.0

CHART 23

Max Pkg Ht (Inches)	TI Limit
4 to 11	1.0

CHART 24

Max Pkg Ht (Inches)	TI Limit
4	2.0
>4 to 12	1.0

CHART 25

Max Pkg Ht (Inches)	TI Limit
4 to 5	2.0
>5 to 13	1.0

CHART 26

Max Pkg Ht (Inches)	TI Limit
4 to 6	2.0
>6 to 14	1.0

CHART 27

Max Pkg Ht (Inches)	TI Limit
4 to 7	2.0
>7 to 15	1.0

CHART 28

Max Pkg Ht (Inches)	TI Limit
4 to 8	2.0
>8 to 16	1.0

CHART 29

Max Pkg Ht (Inches)	TI Limit
4 to 9	2.0
>9 to 17	1.0

CHART 30

Max Pkg Ht (Inches)	TI Limit
4 to 10	2.0
>10 to 18	1.0



# APPENDIX A.

## CHART 31

Max Pkg Ht (Inches)	TI Limit
4 to 11	2.0
>11 to 19	1.0

## CHART 32

Max Pkg Ht (Inches)	TI Limit
4	3.0
>4 to 12	2.0
>12 to 20	1.0

## CHART 33

Max Pkg Ht (Inches)	TI Limit
4 to 5	3.0
>5 to 13	2.0
>13 to 21	1.0

## CHART 34

Max Pkg Ht (Inches)	TI Limit
4 to 6	3.0
>6 to 14	2.0
>14 to 22	1.0

## CHART 35

Max Pkg Ht (Inches)	TI Limit
4 to 7	3.0
>7 to 15	2.0
>15 to 23	1.0

## CHART 36

Max Pkg Ht (Inches)	TI Limit
4 to 8	3.0
>8 to 16	2.0
>16 to 24	1.0

## CHART 37

Max Pkg Ht (Inches)	TI Limit
4 to 9	3.0
>9 to 17	2.0
>17 to 25	1.0

## CHART 38

Max Pkg Ht (Inches)	TI Limit
4	4.0
>4 to 10	3.0
>10 to 18	2.0
>18 to 26	1.0

## CHART 39

Max Pkg Ht (Inches)	TI Limit
4 to 5	4.0
>5 to 11	3.0
>11 to 19	2.0
>19 to 27	1.0

## CHART 40

Max Pkg Ht (Inches)	TI Limit
4 to 6	4.0
>6 to 12	3.0
>12 to 20	2.0
>20 to 28	1.0

## CHART 41

Max Pkg Ht (Inches)	TI Limit
4 to 7	4.0
>7 to 13	3.0
>13 to 21	2.0
>21 to 29	1.0

## CHART 42

Max Pkg Ht (Inches)	TI Limit
4 to 8	4.0
>8 to 14	3.0
>14 to 22	2.0
>22 to 30	1.0

## CHART 43

Max Pkg Ht (Inches)	TI Limit
4 to 9	4.0
>9 to 15	3.0
>15 to 23	2.0
>23 to 31	1.0

## CHART 44

Max Pkg Ht (Inches)	TI Limit
4	5.0
>4 to 10	4.0
>10 to 16	3.0
>16 to 24	2.0
>24 to 32	1.0

## CHART 45

Max Pkg Ht (Inches)	TI Limit
4 to 5	5.0
>5 to 11	4.0
>11 to 17	3.0
>17 to 25	2.0
>25 to 33	1.0

# APPENDIX A.

CHART 46

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 6	5.0
>6 to 12	4.0
>12 to 18	3.0
>18 to 26	2.0
>26 to 34	1.0

CHART 47

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 7	5.0
>7 to 13	4.0
>13 to 19	3.0
>19 to 27	2.0
>27 to 35	1.0

CHART 48

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 8	5.0
>8 to 14	4.0
>14 to 20	3.0
>20 to 28	2.0
>28 to 36	1.0

CHART 49

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 9	5.0
>9 to 15	4.0
>15 to 21	3.0
>21 to 29	2.0
>29 to 37	1.0

CHART 50

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4	6.0
>4 to 10	5.0
>10 to 16	4.0
>16 to 22	3.0
>22 to 30	2.0
>30 to 38	1.0

CHART 51

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 5	6.0
>5 to 11	5.0
>11 to 17	4.0
>17 to 23	3.0
>23 to 31	2.0
>31 to 39	1.0

CHART 52

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 6	6.0
>6 to 12	5.0
>12 to 18	4.0
>18 to 24	3.0
>24 to 32	2.0
>32 to 40	1.0

CHART 53.

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 7	6.0
>7 to 13	5.0
>13 to 19	4.0
>19 to 25	3.0
>25 to 33	2.0
>33 to 41	1.0

CHART 54

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 8	6.0
>8 to 14	5.0
>14 to 20	4.0
>20 to 26	3.0
>26 to 34	2.0
>34 to 42	1.0

CHART 55

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 9	6.0
>9 to 15	5.0
>15 to 21	4.0
>21 to 27	3.0
>27 to 35	2.0
>35 to 43	1.0

CHART 56.

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4	7.0
>4 to 10	6.0
>10 to 16	5.0
>16 to 22	4.0
>22 to 28	3.0
>28 to 36	2.0
>36 to 44	1.0

CHART 57

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 5	7.0
>5 to 11	6.0
>11 to 17	5.0
>17 to 23	4.0
>23 to 29	3.0
>29 to 37	2.0
>37 to 45	1.0

# APPENDIX A.

## CHART 58

Max Pkg Ht (Inches)	TI Limit
4 to 6	7.0
>6 to 12	6.0
>12 to 18	5.0
>18 to 24	4.0
>24 to 30	3.0
>30 to 38	2.0
>38 to 46	1.0

## CHART 59

Max Pkg Ht (Inches)	TI Limit
4 to 7	7.0
>7 to 13	6.0
>13 to 19	5.0
>19 to 25	4.0
>25 to 31	3.0
>31 to 39	2.0
>39 to 47	1.0

## CHART 60

Max Pkg Ht (Inches)	TI Limit
4 to 8	7.0
>8 to 14	6.0
>14 to 20	5.0
>20 to 26	4.0
>26 to 32	3.0
>32 to 40	2.0
>40 to 48	1.0

## CHART 61

Max Pkg Ht (Inches)	TI Limit
4	8.0
>4 to 9	7.0
>9 to 15	6.0
>15 to 21	5.0
>21 to 27	4.0
>27 to 33	3.0
>33 to 41	2.0
>41 to 49	1.0

## CHART 62

Max Pkg Ht (Inches)	TI Limit
4 to 5	8.0
>5 to 10	7.0
>10 to 16	6.0
>16 to 22	5.0
>22 to 28	4.0
>28 to 34	3.0
>34 to 42	2.0
>42 to 50	1.0

## CHART 63

Max Pkg Ht (Inches)	TI Limit
4 to 6	8.0
>6 to 11	7.0
>11 to 17	6.0
>17 to 23	5.0
>23 to 29	4.0
>29 to 35	3.0
>35 to 43	2.0
>43 to 51	1.0

## CHART 64

Max Pkg Ht (Inches)	TI Limit
4 to 7	8.0
>7 to 12	7.0
>12 to 18	6.0
>18 to 24	5.0
>24 to 30	4.0
>30 to 36	3.0
>36 to 44	2.0
>44 to 52	1.0

## CHART 65

Max Pkg Ht (Inches)	TI Limit
4	9.0
>4 to 8	8.0
>8 to 13	7.0
>13 to 19	6.0
>19 to 25	5.0
>25 to 31	4.0
>31 to 37	3.0
>37 to 45	2.0
>45 to 53	1.0

## CHART 66

Max Pkg Ht (Inches)	TI Limit
4 to 5	9.0
>5 to 9	8.0
>9 to 14	7.0
>14 to 20	6.0
>20 to 26	5.0
>26 to 32	4.0
>32 to 38	3.0
>38 to 46	2.0
>46 to 54	1.0

# APPENDIX A.

## CHART 67

Max Pkg Ht (Inches)	TI Limit
4 to 6	9.0
>6 to 10	8.0
>10 to 15	7.0
>15 to 21	6.0
>21 to 27	5.0
>27 to 33	4.0
>33 to 39	3.0
>39 to 47	2.0
>47 to 55	1.0

## CHART 68

Max Pkg Ht (Inches)	TI Limit
4 to 7	9.0
>7 to 11	8.0
>11 to 16	7.0
>16 to 22	6.0
>22 to 28	5.0
>28 to 34	4.0
>34 to 40	3.0
>40 to 48	2.0
>48 to 56	1.0

## CHART 69

Max Pkg Ht (Inches)	TI Limit
4	10.0
>4 to 8	9.0
>8 to 12	8.0
>12 to 17	7.0
>17 to 23	6.0
>23 to 29	5.0
>29 to 35	4.0
>35 to 41	3.0
>41 to 49	2.0
>49 to 57	1.0

## CHART 70

Max Pkg Ht (Inches)	TI Limit
4 to 5	10.0
>5 to 9	9.0
>9 to 13	8.0
>13 to 18	7.0
>18 to 24	6.0
>24 to 30	5.0
>30 to 36	4.0
>36 to 42	3.0
>42 to 50	2.0
>50 to 58	1.0

## CHART 71

Max Pkg Ht (Inches)	TI Limit
4 to 6	10.0
>6 to 10	9.0
>10 to 14	8.0
>14 to 19	7.0
>19 to 25	6.0
>25 to 31	5.0
>31 to 37	4.0
>37 to 43	3.0
>43 to 51	2.0
>51 to 59	1.0

## CHART 72

Max Pkg Ht (Inches)	TI Limit
4 to 7	10.0
>7 to 11	9.0
>11 to 15	8.0
>15 to 20	7.0
>20 to 26	6.0
>26 to 32	5.0
>32 to 38	4.0
>38 to 44	3.0
>44 to 52	2.0
>52 to 60	1.0

## CHART 73

Max Pkg Ht (Inches)	TI Limit
4	11.0
>4 to 8	10.0
>8 to 12	9.0
>12 to 16	8.0
>16 to 21	7.0
>21 to 27	6.0
>27 to 33	5.0
>33 to 39	4.0
>39 to 45	3.0
>45 to 53	2.0
>53 to 61	1.0

## CHART 74

Max Pkg Ht (Inches)	TI Limit
4 to 5	11.0
>5 to 9	10.0
>9 to 13	9.0
>13 to 17	8.0
>17 to 22	7.0
>22 to 28	6.0
>28 to 34	5.0
>34 to 40	4.0
>40 to 46	3.0
>46 to 54	2.0
>54 to 62	1.0

## CHART 75

Max Pkg Ht (Inches)	TI Limit
4 to 6	11.0
>6 to 10	10.0
>10 to 14	9.0
>14 to 18	8.0
>18 to 23	7.0
>23 to 29	6.0
>29 to 35	5.0
>35 to 41	4.0
>41 to 47	3.0
>47 to 55	2.0
>55 to 63	1.0

# APPENDIX A.

CHART 76

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 7	11.0
>7 to 11	10.0
>11 to 15	9.0
>15 to 19	8.0
>19 to 24	7.0
>24 to 30	6.0
>30 to 36	5.0
>36 to 42	4.0
>42 to 48	3.0
>48 to 56	2.0
>56 to 64	1.0

CHART 77

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4	12.0
>4 to 8	11.0
>8 to 12	10.0
>12 to 16	9.0
>16 to 20	8.0
>20 to 25	7.0
>25 to 31	6.0
>31 to 37	5.0
>37 to 43	4.0
>43 to 49	3.0
>49 to 57	2.0
>57 to 65	1.0

CHART 78

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 5	12.0
>5 to 9	11.0
>9 to 13	10.0
>13 to 17	9.0
>17 to 21	8.0
>21 to 26	7.0
>26 to 32	6.0
>32 to 38	5.0
>38 to 44	4.0
>44 to 50	3.0
>50 to 58	2.0
>58 to 66	1.0

CHART 79

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 6	12.0
>6 to 10	11.0
>10 to 14	10.0
>14 to 18	9.0
>18 to 22	8.0
>22 to 27	7.0
>27 to 33	6.0
>33 to 39	5.0
>39 to 45	4.0
>45 to 51	3.0
>51 to 59	2.0
>59 to 67	1.0

CHART 80

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 7	12.0
>7 to 11	11.0
>11 to 15	10.0
>15 to 19	9.0
>19 to 23	8.0
>23 to 28	7.0
>28 to 34	6.0
>34 to 40	5.0
>40 to 46	4.0
>46 to 52	3.0
>52 to 60	2.0
>60 to 68	1.0

CHART 81

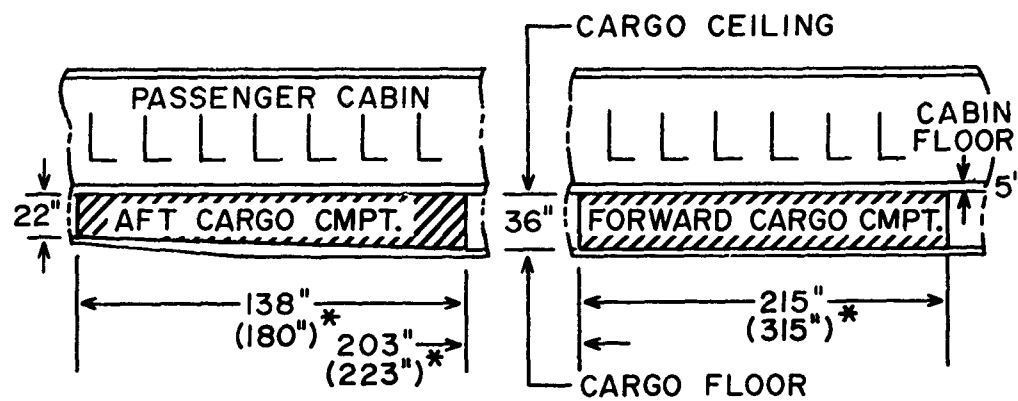
<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4	13.0
>4 to 8	12.0
>8 to 12	11.0
>12 to 16	10.0
>16 to 20	9.0
>20 to 24	8.0
>24 to 29	7.0
>29 to 35	6.0
>35 to 41	5.0
>41 to 47	4.0
>47 to 53	3.0
>53 to 61	2.0
>61 to 69	1.0

# APPENDIX A

CHART 82

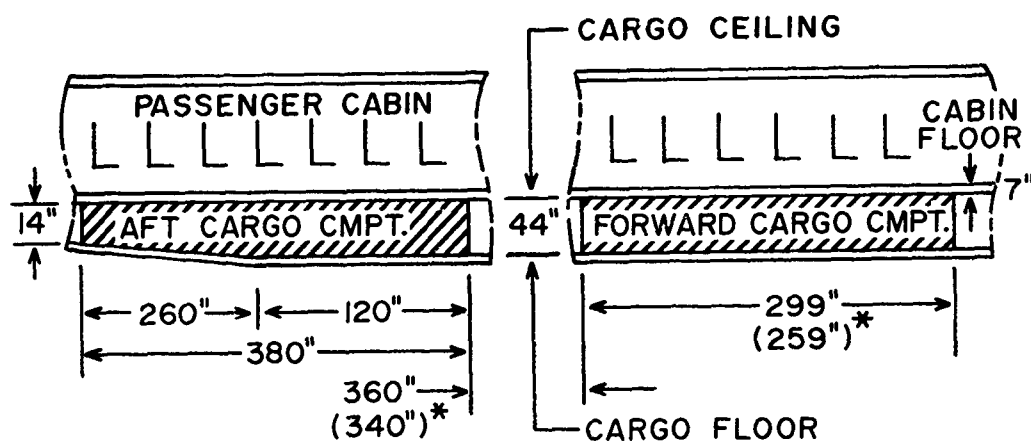
Max Pkg Ht (Inches)	TI Limit
4 to 5	13.0
>5 to 9	12.0
>9 to 13	11.0
>13 to 17	10.0
>17 to 21	9.0
>21 to 25	8.0
>25 to 30	7.0
>30 to 36	6.0
>36 to 42	5.0
>42 to 48	4.0
>48 to 54	3.0
>54 to 62	2.0
>62 to 70	1.0

APPENDIX B. CARGO COMPARTMENT DIMENSIONS AND DISTANCE TO NEAREST PASSENGER OR CREW AREA



\* SERIES 500 ONLY

Figure 1. BAC-1-11-200/400/500



\* SERIES 120B

Figure 2. B-707-120B/320/320B/420

APPENDIX B.

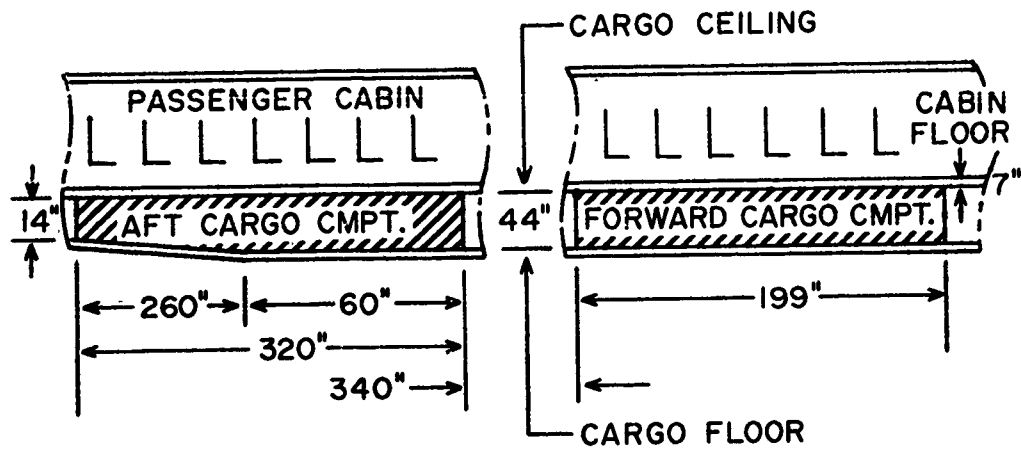


Figure 3. B-720/720B

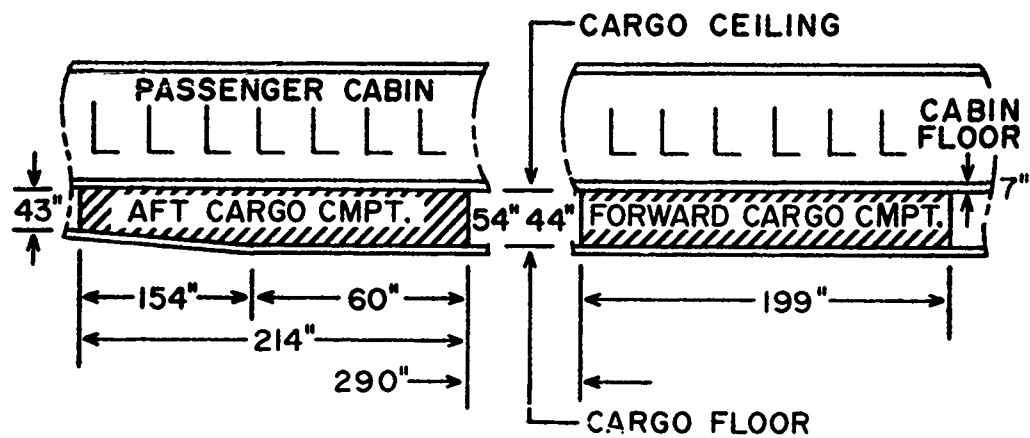


Figure 4. B-727-100



APPENDIX B.

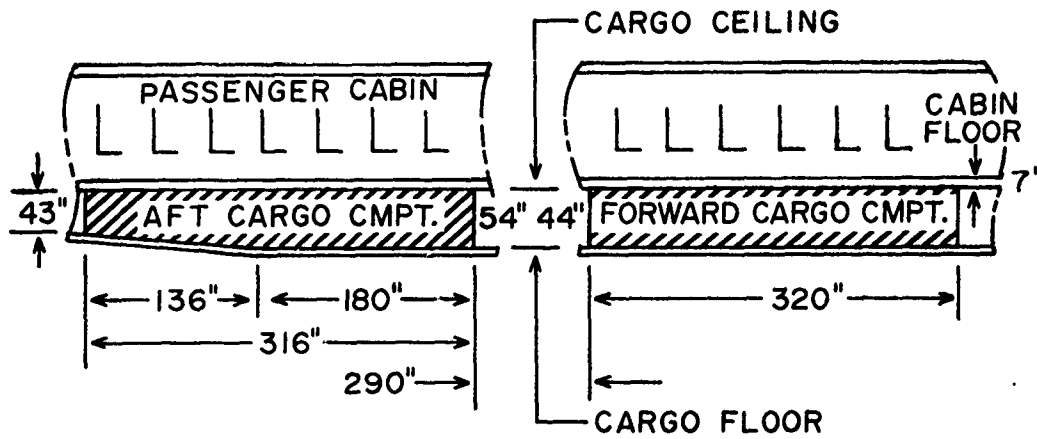


Figure 5. B-727-200

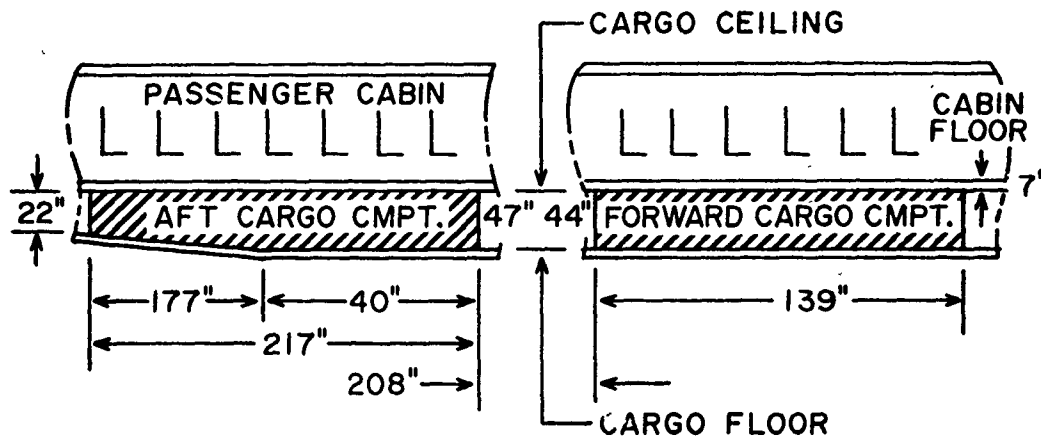


Figure 6. B-737-100

APPENDIX B.

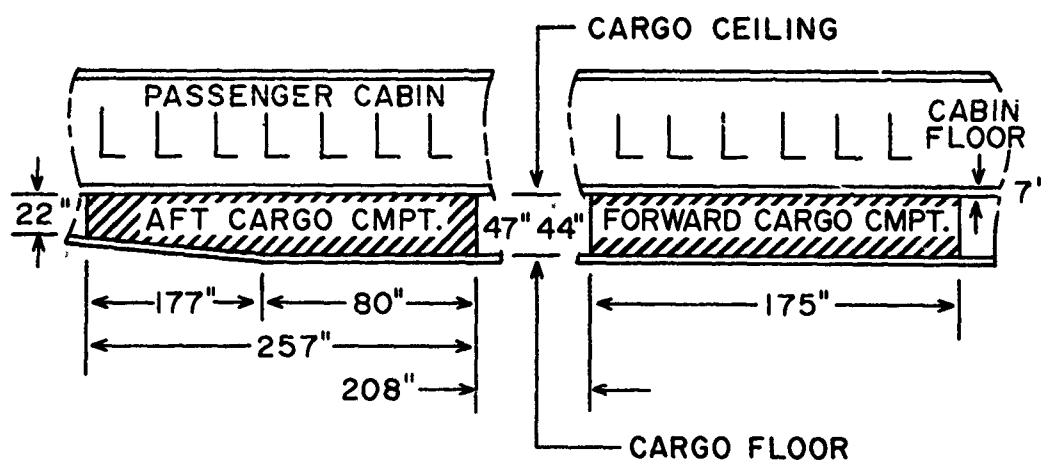


Figure 7. B-737-200

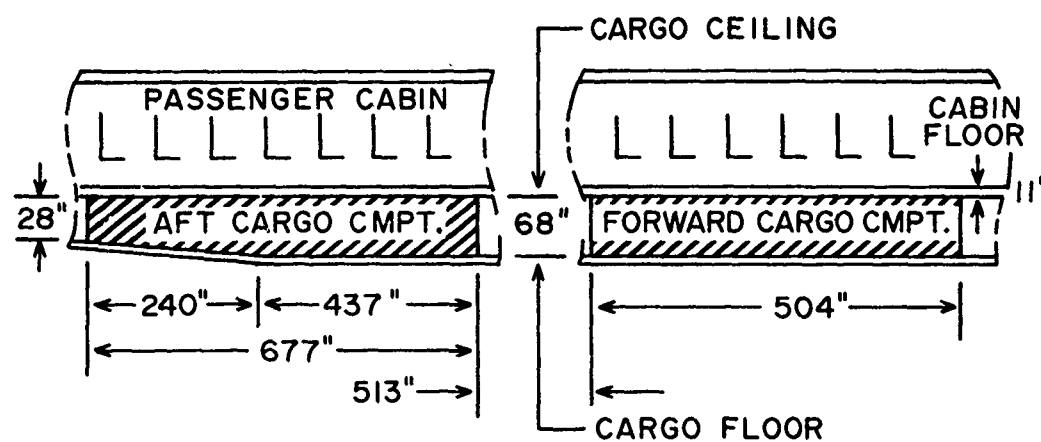


Figure 8. B-747/747B

## APPENDIX B.

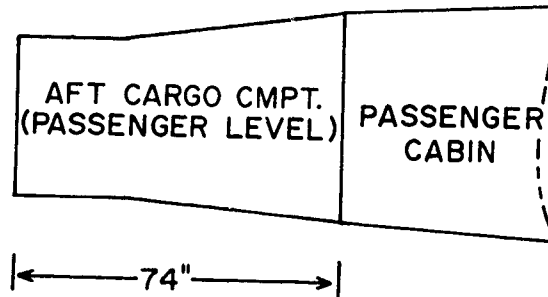
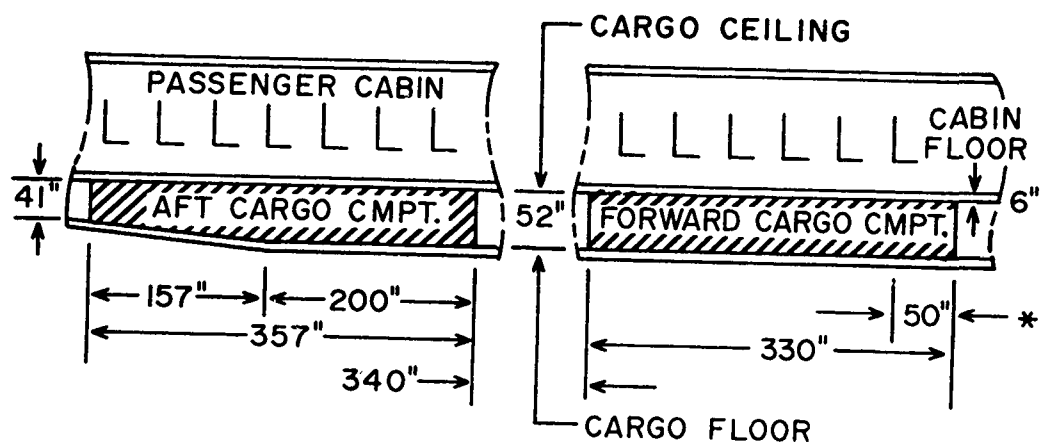


Figure 9. DHC-6-300



\* FIRST 50" TAPERS UPWARD

Figure 10. DC-8-43/55

APPENDIX B.

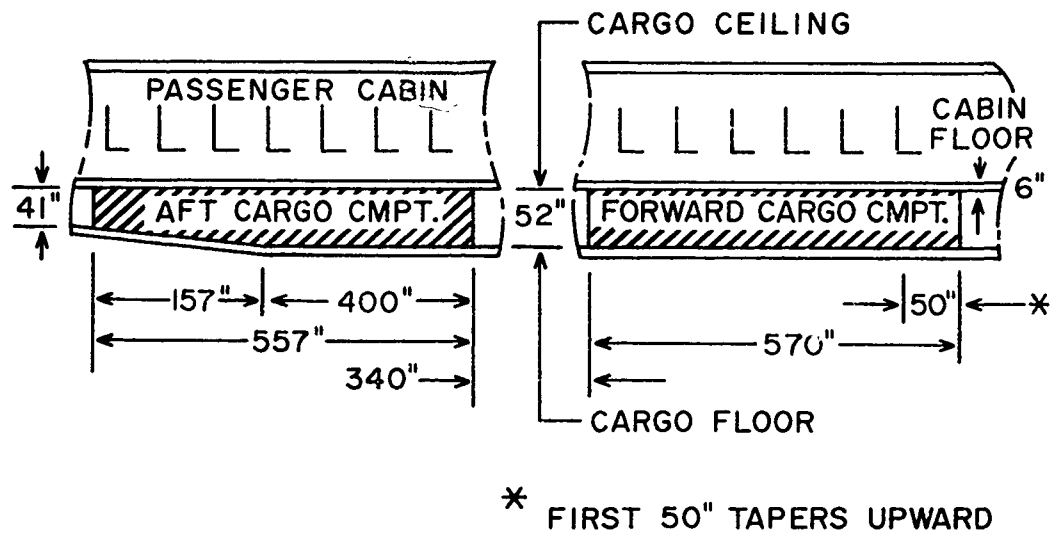


Figure 11. DC-8-61/63

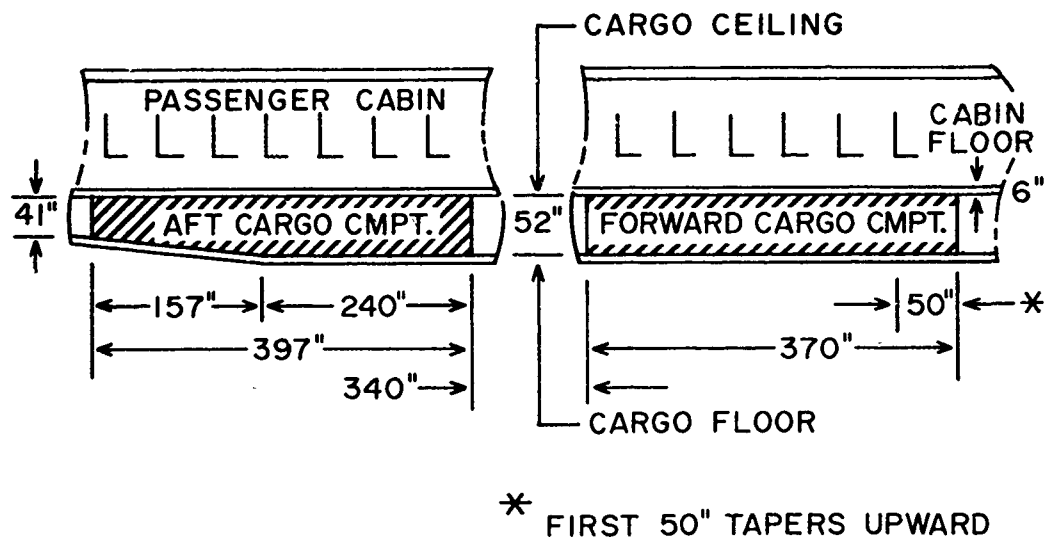


Figure 12. DC-8-62

APPENDIX B.

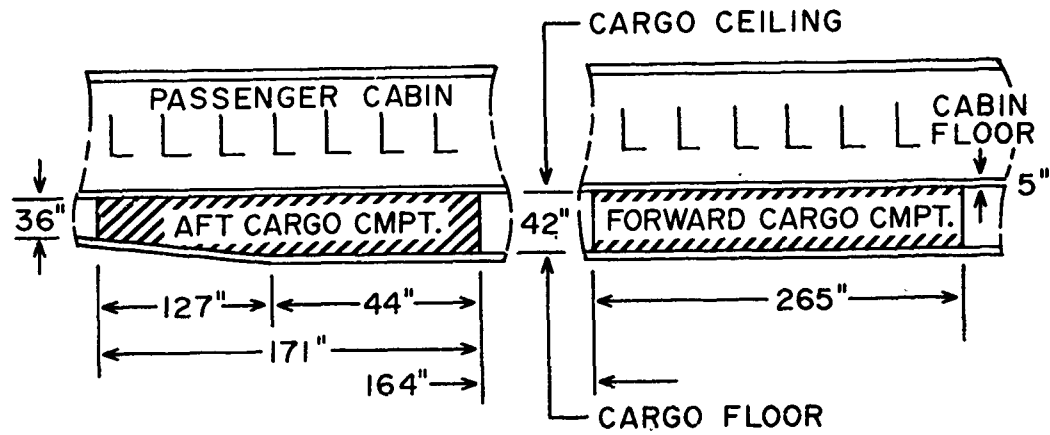


Figure 13. DC-9-10/20

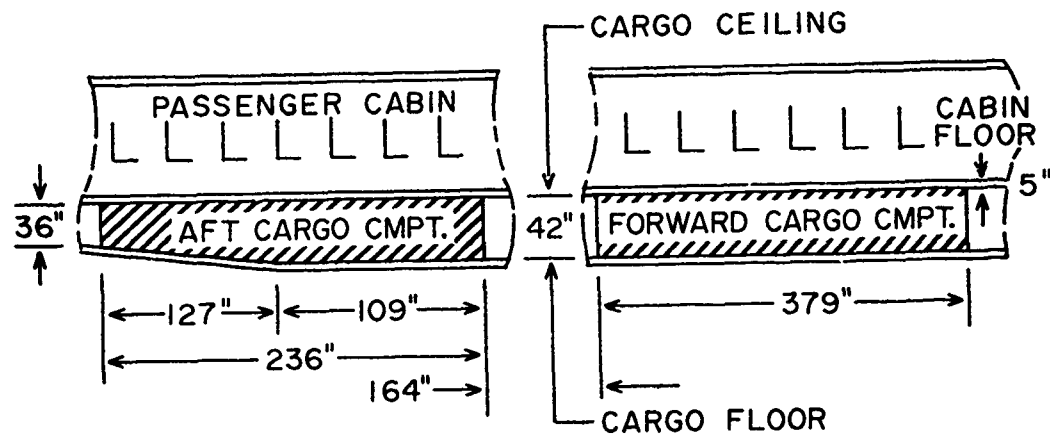


Figure 14. DC-9-30

APPENDIX B.

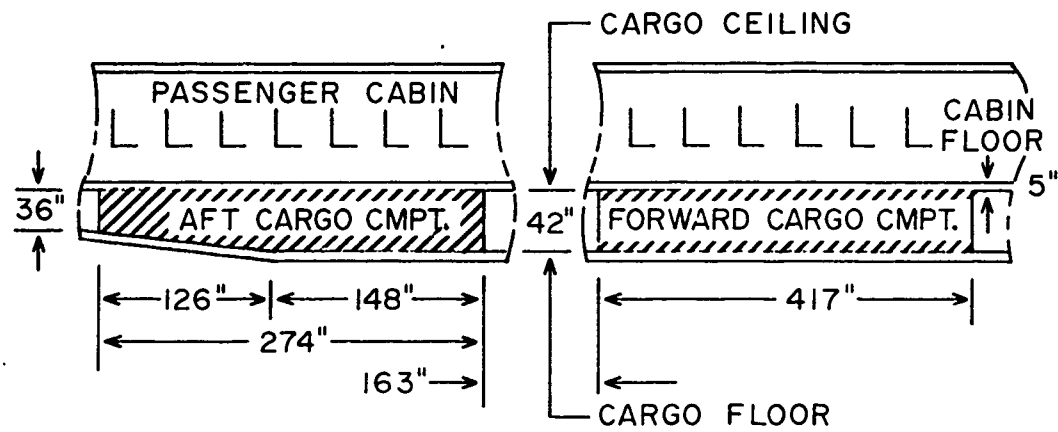


Figure 15. DC-9-40

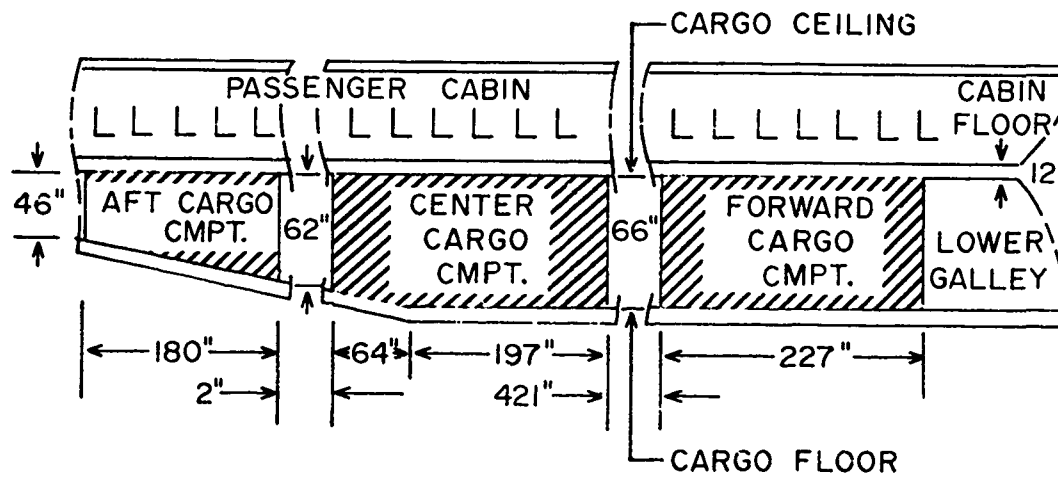
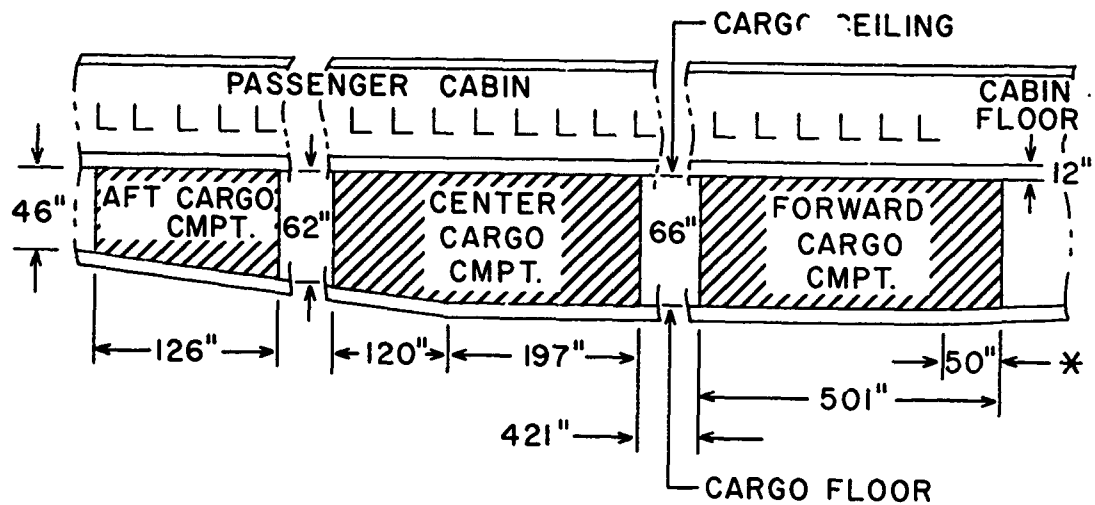


Figure 16. DC-10-10/20/30/40 (with lower galley)

# APPENDIX B.



\* FIRST 50" TAPERS UPWARD

Figure 17. DC-10-30 (without lower galley)

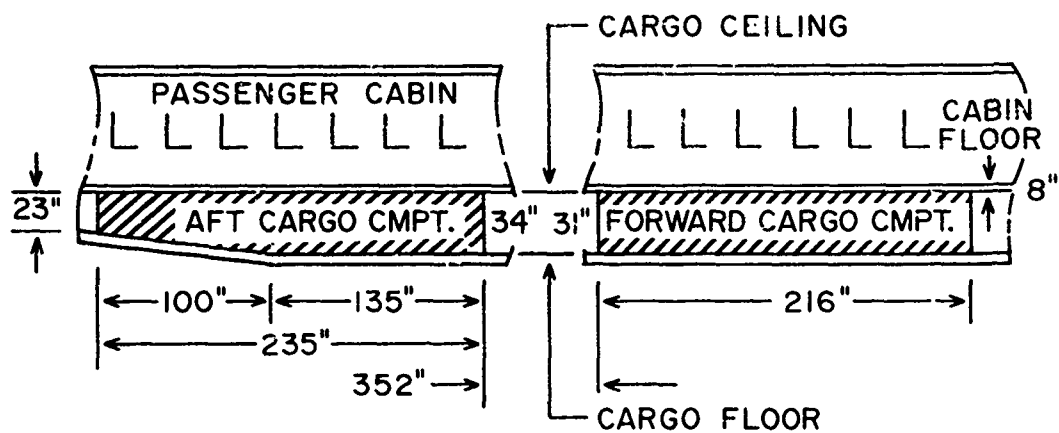


Figure 18. L-188 (except American Airlines)

APPENDIX B.

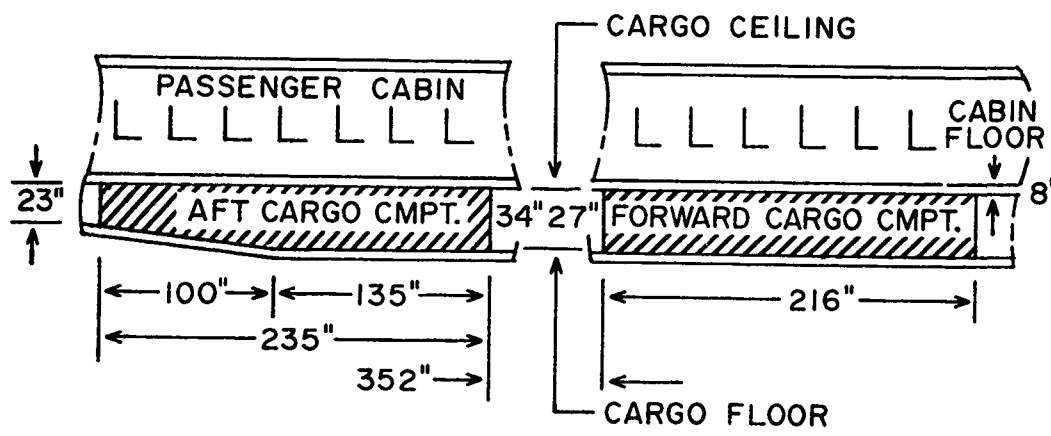


Figure 19. L-188 (American Airlines)

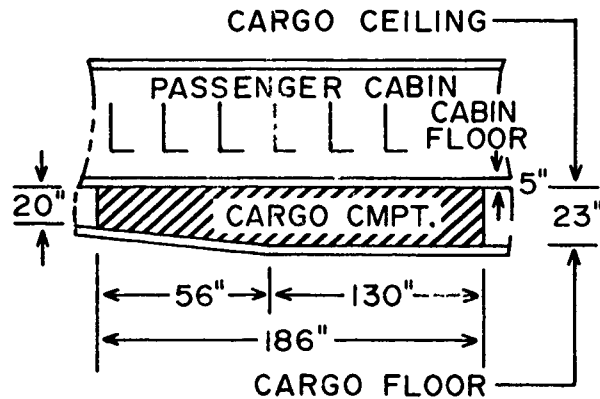


Figure 20. M-404



APPENDIX B.

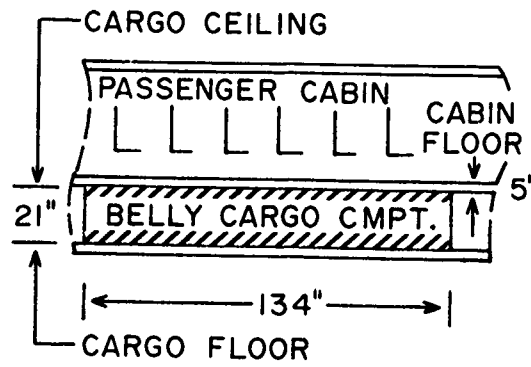


Figure 21. YS-11A Piedmont

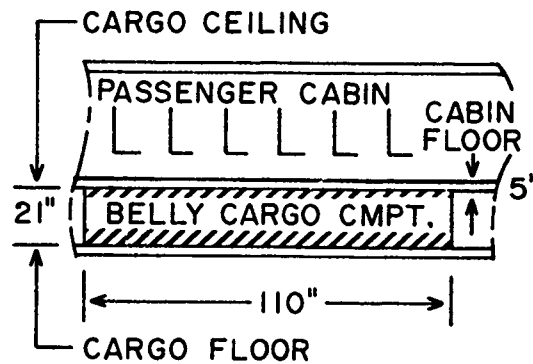


Figure 22. YS-11/11A Standard

APPENDIX C. TI-LIMIT CHARTS FOR PASSENGER-CARRYING AIRCRAFT WHERE  
AN APPROVED SYSTEM OF PREDESIGNATED AREAS IS IN USE

16(48 or more)

28(80 or more)

CHART 16(48 or more)

Max Pkg Ht (Inches)	TI Limit
4	1.0

CHART 17(48 or more)

Max Pkg Ht (Inches)	TI Limit
4 to 5	1.0

CHART 18(48 or more)

Max Pkg Ht (Inches)	TI Limit
4 to 6	1.0

CHART 19(48 or more)

Max Pkg Ht (Inches)	TI Limit
4 to 7	1.0

CHART 20(48 or more)

Max Pkg Ht (Inches)	TI Limit
4 to 8	1.0

CHART 21(48 or more)

Max Pkg Ht (Inches)	TI Limit
4 to 9	1.0

CHART 22(48 or more)

Max Pkg Ht (Inches)	TI Limit
4 to 10	1.0

CHART 23(48 or more)

Max Pkg Ht (Inches)	TI Limit
4 to 11	1.0

CHART 24(48 to 79)

Max Pkg Ht (Inches)	TI Limit
4 to 12	1.0

CHART 24(80 or more)

Max Pkg Ht (Inches)	TI Limit
4	2.0
>4 to 12	1.0

CHART 25(48 to 79)

Max Pkg Ht (Inches)	TI Limit
4 to 13	1.0

CHART 25(80 or more)

Max Pkg Ht (Inches)	TI Limit
4 to 5	2.0
>5 to 13	1.0

CHART 26(48 to 79)

Max Pkg Ht (Inches)	TI Limit
4 to 14	1.0

CHART 26(80 or more)

Max Pkg Ht (Inches)	TI Limit
4 to 6	2.0
>6 to 14	1.0

CHART 27(48 to 79)

Max Pkg Ht (Inches)	TI Limit
4 to 15	1.0

CHART 27(80 or more)

Max Pkg Ht (Inches)	TI Limit
4 to 7	2.0
>7 to 15	1.0

CHART 28(48 to 79)

Max Pkg Ht (Inches)	TI Limit
4 to 16	1.0

CHART 28(80 or more)

Max Pkg Ht (Inches)	TI Limit
4 to 8	2.0
>8 to 16	1.0

# APPENDIX C.

29(48 to 79)

CHART 29(48 to 79)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 17	1.0

CHART 30(80 or more)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 10	2.0
>10 to 18	1.0

CHART 32(48 to 79)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 20	1.0

CHART 33(48 to 79)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 21	1.0

CHART 34(48 to 79)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 22	1.0

CHART 29(80 or more)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 9	2.0
>9 to 17	1.0

CHART 31(48 to 79)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 19	1.0

CHART 32(80 to 111)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 12	2.0
>12 to 20	1.0

CHART 33(80 to 111)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 13	2.0
>13 to 21	1.0

CHART 34(80 to 111)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 14	2.0
>14 to 22	1.0

34(112 or more)

CHART 30(48 to 79)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 18	1.0

CHART 31(80 or more)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 11	2.0
>11 to 19	1.0

CHART 32(112 or more)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4	3.0
>4 to 12	2.0
>12 to 20	1.0

CHART 33(112 or more)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 5	3.0
>5 to 13	2.0
>13 to 21	1.0

CHART 34(112 or more)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 6	3.0
>6 to 14	2.0
>14 to 22	1.0

# APPENDIX C.

35(48 to 79)

39(80 to 111)

CHART 35(48 to 79)

Max Pkg Ht (Inches)	TI Limit
4 to 23	1.0

CHART 35(80 to 111)

Max Pkg Ht (Inches)	TI Limit
4 to 15	2.0
>15 to 23	1.0

CHART 35(112 or more)

Max Pkg Ht (Inches)	TI Limit
4 to 7	3.0
>7 to 15	2.0
>15 to 23	1.0

CHART 36(48 to 79)

Max Pkg Ht (Inches)	TI Limit
4 to 24	1.0

CHART 36(80 to 111)

Max Pkg Ht (Inches)	TI Limit
4 to 16	2.0
>16 to 24	1.0

CHART 36(112 or more)

Max Pkg Ht (Inches)	TI Limit
4 to 8	3.0
>8 to 16	2.0
>16 to 24	1.0

CHART 37(48 to 79)

Max Pkg Ht (Inches)	TI Limit
4 to 25	1.0

CHART 37(80 to 111)

Max Pkg Ht (Inches)	TI Limit
4 to 17	2.0
>17 to 25	1.0

CHART 37(112 or more)

Max Pkg Ht (Inches)	TI Limit
4 to 9	3.0
>9 to 17	2.0
>17 to 25	1.0

CHART 38(48 to 79)

Max Pkg Ht (Inches)	TI Limit
4 to 26	1.0

CHART 38(80 to 111)

Max Pkg Ht (Inches)	TI Limit
4 to 18	2.0
>18 to 26	1.0

CHART 38(112 to 135)

Max Pkg Ht (Inches)	TI Limit
4 to 10	3.0
>10 to 18	2.0
>18 to 26	1.0

CHART 38(136 or more)

Max Pkg Ht (Inches)	TI Limit
4	4.0
>4 to 10	3.0
>10 to 18	2.0
>18 to 26	1.0

CHART 39(48 to 79)

Max Pkg Ht (Inches)	TI Limit
4 to 27	1.0

CHART 39(80 to 111)

Max Pkg Ht (Inches)	TI Limit
4 to 19	2.0
>19 to 27	1.0

39(112 to 135)

## APPENDIX C.

43(48 to 79)

CHART 39(112 to 135)

Max Pkg Ht (Inches)	TI Limit
4 to 11	3.0
>11 to 19	2.0
>19 to 27	1.0

CHART 39(136 or more)

Max Pkg Ht (Inches)	TI Limit
4 to 5	4.0
>5 to 11	3.0
>11 to 19	2.0
>19 to 27	1.0

CHART 40(48 to 79)

Max Pkg Ht (Inches)	TI Limit
4 to 28	1.0

CHART 40(80 to 111)

Max Pkg Ht (Inches)	TI Limit
4 to 20	2.0
>20 to 28	1.0

CHART 40(112 to 135)

Max Pkg Ht (Inches)	TI Limit
4 to 12	3.0
>12 to 20	2.0
>20 to 28	1.0

CHART 40(136 or more)

Max Pkg Ht (Inches)	TI Limit
4 to 6	4.0
>6 to 12	3.0
>12 to 20	2.0
>20 to 28	1.0

CHART 41(48 to 79)

Max Pkg Ht (Inches)	TI Limit
4 to 29	1.0

CHART 41(80 to 111)

Max Pkg Ht (Inches)	TI Limit
4 to 21	2.0
>21 to 29	1.0

CHART 41(112 to 135)

Max Pkg Ht (Inches)	TI Limit
4 to 13	3.0
>13 to 21	2.0
>21 to 29	1.0

CHART 41(136 or more)

Max Pkg Ht (Inches)	TI Limit
4 to 7	4.0
>7 to 13	3.0
>13 to 21	2.0
>21 to 29	1.0

CHART 42(48 to 79)

Max Pkg Ht (Inches)	TI Limit
4 to 30	1.0

CHART 42(80 to 111)

Max Pkg Ht (Inches)	TI Limit
4 to 22	2.0
>22 to 30	1.0

CHART 42(112 to 135)

Max Pkg Ht (Inches)	TI Limit
4 to 14	3.0
>14 to 22	2.0
>22 to 30	1.0

CHART 42(136 or more)

Max Pkg Ht (Inches)	TI Limit
4 to 8	4.0
>8 to 14	3.0
>14 to 22	2.0
>22 to 30	1.0

CHART 43(48 to 79)

Max Pkg Ht (Inches)	TI Limit
4 to 31	1.0

# APPENDIX C.

43(80 to 111)

CHART 43(80 to 111)

Max Pkg Ht (Inches)	TI Limit
4 to 23	2.0
>23 to 31	1.0

CHART 44(48 to 79)

Max Pkg Ht (Inches)	TI Limit
4 to 32	1.0

CHART 44(136 to 159)

Max Pkg Ht (Inches)	TI Limit
4 to 10	4.0
>10 to 16	3.0
>16 to 24	2.0
>24 to 32	1.0

CHART 45(80 to 111)

Max Pkg Ht (Inches)	TI Limit
4 to 25	2.0
>25 to 33	1.0

CHART 43(112 to 135)

Max Pkg Ht (Inches)	TI Limit
4 to 15	3.0
>15 to 23	2.0
>23 to 31	1.0

CHART 44(80 to 111)

Max Pkg Ht (Inches)	TI Limit
4 to 24	2.0
>24 to 32	1.0

CHART 44(160 or more)

Max Pkg Ht (Inches)	TI Limit
4	5.0
>4 to 10	4.0
>10 to 16	3.0
>16 to 24	2.0
>24 to 32	1.0

CHART 45(112 to 135)

Max Pkg Ht (Inches)	TI Limit
4 to 17	3.0
>17 to 25	2.0
>25 to 33	1.0

45(136 to 159)

CHART 43(136 or more)

Max Pkg Ht (Inches)	TI Limit
4 to 9	4.0
>9 to 15	3.0
>15 to 23	2.0
>23 to 31	1.0

CHART 44(112 to 135)

Max Pkg Ht (Inches)	TI Limit
4 to 16	3.0
>16 to 24	2.0
>24 to 32	1.0

CHART 45(48 to 79)

Max Pkg Ht (Inches)	TI Limit
4 to 33	1.0

CHART 45(136 to 159)

Max Pkg Ht (Inches)	TI Limit
4 to 11	4.0
>11 to 17	3.0
>17 to 25	2.0
>25 to 33	1.0

# APPENDIX C.

45(160 or more)

48(48 to 79)

CHART 45(160 or more)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 5	5.0
>5 to 11	4.0
>11 to 17	3.0
>17 to 25	2.0
>25 to 33	1.0

CHART 46(48 to 79)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 34	1.0

CHART 46(80 to 111)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 26	2.0
>26 to 34	1.0

CHART 46(112 to 135)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 18	3.0
>18 to 26	2.0
>26 to 34	1.0

CHART 46(136 to 159)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to	4.0
>12 to 3	3.0
>18 to 26	2.0
>26 to 34	1.0

CHART 46(160 or more)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 6	5.0
>6 to 12	4.0
>12 to 18	3.0
>18 to 26	2.0
>26 to 34	1.0

CHART 47(48 to 79)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 35	1.0

CHART 47(80 to 111)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 27	2.0
>27 to 35	1.0

CHART 47(112 to 135)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 19	3.0
>19 to 27	2.0
>27 to 35	1.0

CHART 47(136 to 159)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 13	4.0
>13 to 19	3.0
>19 to 27	2.0
>27 to 35	1.0

CHART 47(160 or more)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 7	5.0
>7 to 13	4.0
>13 to 19	3.0
>19 to 27	2.0
>27 to 35	1.0

CHART 48(48 to 79)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 36	1.0

# APPENDIX C.

48(80 to 111)

50(112 to 135)

CHART 48(80 to 111)

CHART 48(112 to 135)

CHART 48(136 to 159)

Max Pkg Ht (Inches)	TI Limit
4 to 28	2.0
>28 to 36	1.0

Max Pkg Ht (Inches)	TI Limit
4 to 20	3.0
>20 to 28	2.0
>28 to 36	1.0

Max Pkg Ht (Inches)	TI Limit
4 to 14	4.0
>14 to 20	3.0
>20 to 28	2.0
>28 to 36	1.0

CHART 48(160 or more)

CHART 49(48 to 79)

CHART 49(80 to 111)

Max Pkg Ht (Inches)	TI Limit
4 to 8	5.0
>8 to 14	4.0
>14 to 20	3.0
>20 to 28	2.0
>28 to 36	1.0

Max Pkg Ht (Inches)	TI Limit
4 to 37	1.0

Max Pkg Ht (Inches)	TI Limit
4 to 29	2.0
>29 to 37	1.0

CHART 49(112 to 135)

CHART 49(136 to 159)

CHART 49(160 or more)

Max Pkg Ht (Inches)	TI Limit
4 to 21	3.0
>21 to 29	2.0
>29 to 37	1.0

Max Pkg Ht (Inches)	TI Limit
4 to 15	4.0
>15 to 21	3.0
>21 to 29	2.0
>29 to 37	1.0

Max Pkg Ht (Inches)	TI Limit
4 to 9	5.0
>9 to 15	4.0
>15 to 21	3.0
>21 to 29	2.0
>29 to 37	1.0

CHART 50(48 to 79)

CHART 50(80 to 111)

CHART 50(112 to 135)

Max Pkg Ht (Inches)	TI Limit
4 to 38	1.0

Max Pkg Ht (Inches)	TI Limit
4 to 30	2.0
>30 to 38	1.0

Max Pkg Ht (Inches)	TI Limit
4 to 22	3.0
>22 to 30	2.0
>30 to 38	1.0



# APPENDIX C.

50(136 to 159)

52(112 to 135)

CHART 50(136 to 159)

CHART 50(160 to 183)

CHART 50(184 or more)

Max Pkg Ht (Inches)	TI Limit
4 to 16	4.0
>16 to 22	3.0
>22 to 30	2.0
>30 to 38	1.0

Max Pkg Ht (Inches)	TI Limit
4 to 10	5.0
>10 to 16	4.0
>16 to 22	3.0
>22 to 30	2.0
>30 to 38	1.0

Max Pkg Ht (Inches)	TI Limit
4	6.0
>4 to 10	5.0
>10 to 16	4.0
>16 to 22	3.0
>22 to 30	2.0
>30 to 38	1.0

CHART 51(48 to 79)

CHART 51(80 to 111)

CHART 51(112 to 135)

Max Pkg Ht (Inches)	TI Limit
4 to 39	1.0

Max Pkg Ht (Inches)	TI Limit
4 to 31	2.0
>31 to 39	1.0

Max Pkg Ht (Inches)	TI Limit
4 to 23	3.0
>23 to 31	2.0
>31 to 39	1.0

CHART 51(136 to 159)

CHART 51(160 to 183)

CHART 51(184 or more)

Max Pkg Ht (Inches)	TI Limit
4 to 17	4.0
>17 to 23	3.0
>23 to 31	2.0
>31 to 39	1.0

Max Pkg Ht (Inches)	TI Limit
4 to 11	5.0
>11 to 17	4.0
>17 to 23	3.0
>23 to 31	2.0
>31 to 39	1.0

Max Pkg Ht (Inches)	TI Limit
4 to 5	6.0
>5 to 11	5.0
>11 to 17	4.0
>17 to 23	3.0
>23 to 31	2.0
>31 to 39	1.0

CHART 52(48 to 79)

CHART 52(80 to 111)

CHART 52(112 to 135)

Max Pkg Ht (Inches)	TI Limit
4 to 40	1.0

Max Pkg Ht (Inches)	TI Limit
4 to 32	2.0
>32 to 40	1.0

Max Pkg Ht (Inches)	TI Limit
4 to 24	3.0
>24 to 32	2.0
>32 to 40	1.0

# APPENDIX C.

52(136 to 159)

54(112 to 135)

CHART 52(136 to 159)

Max Pkg Ht (Inches)	TI Limit
4 to 18	4.0
>18 to 24	3.0
>24 to 32	2.0
>32 to 40	1.0

CHART 52(160 to 183)

Max Pkg Ht (Inches)	TI Limit
4 to 12	5.0
>12 to 18	4.0
>18 to 24	3.0
>24 to 32	2.0
>32 to 40	1.0

CHART 52(184 or more)

Max Pkg Ht (Inches)	TI Limit
4 to 6	6.0
>6 to 12	5.0
>12 to 18	4.0
>18 to 24	3.0
>24 to 32	2.0
>32 to 40	1.0

CHART 53(48 to 79)

Max Pkg Ht (Inches)	TI Limit
4 to 41	1.0

CHART 53(80 to 111)

Max Pkg Ht (Inches)	TI Limit
4 to 33	2.0
>33 to 41	1.0

CHART 53(112 to 135)

Max Pkg Ht (Inches)	TI Limit
4 to 25	3.0
>25 to 33	2.0
>33 to 41	1.0

CHART 53(136 to 159)

Max Pkg Ht (Inches)	TI Limit
4 to 19	4.0
>19 to 25	3.0
>25 to 33	2.0
>33 to 41	1.0

CHART 53(160 to 183)

Max Pkg Ht (Inches)	TI Limit
4 to 13	5.0
>13 to 19	4.0
>19 to 25	3.0
>25 to 33	2.0
>33 to 41	1.0

CHART 53(184 or more)

Max Pkg Ht (Inches)	TI Limit
4 to 7	6.0
>7 to 13	5.0
>13 to 19	4.0
>19 to 25	3.0
>25 to 33	2.0
>33 to 41	1.0

CHART 54(48 to 79)

Max Pkg Ht (Inches)	TI Limit
4 to 42	1.0

CHART 54(80 to 111)

Max Pkg Ht (Inches)	TI Limit
4 to 34	2.0
>34 to 42	1.0

CHART 54(112 to 135)

Max Pkg Ht (Inches)	TI Limit
4 to 26	3.0
>26 to 34	2.0
>34 to 42	1.0

# APPENDIX C.

54(136 to 159)

56(112 to 135)

CHART 54(136 to 159)

CHART 54(160 to 183)

CHART 54(184 or more)

Max Pkg Ht (Inches)	TI Limit
4 to 20	4.0
>20 to 26	3.0
>26 to 34	2.0
>34 to 42	1.0

Max Pkg Ht (Inches)	TI Limit
4 to 14	5.0
>14 to 20	4.0
>20 to 26	3.0
>26 to 34	2.0
>34 to 42	1.0

Max Pkg Ht (Inches)	TI Limit
4 to 8	6.0
>8 to 14	5.0
>14 to 20	4.0
>20 to 26	3.0
>26 to 34	2.0
>34 to 42	1.0

CHART 55(48 to 79)

CHART 55(80 to 111)

CHART 55(112 to 135)

Max Pkg Ht (Inches)	TI Limit
4 to 43	1.0

Max Pkg Ht (Inches)	TI Limit
4 to 35	2.0
>35 to 43	1.0

Max Pkg Ht (Inches)	TI Limit
4 to 27	3.0
>27 to 35	2.0
>35 to 43	1.0

CHART 55(136 to 159)

CHART 55(160 to 183)

CHART 55(184 or more)

Max Pkg Ht (Inches)	TI Limit
4 to 21	4.0
>21 to 27	3.0
>27 to 35	2.0
>35 to 43	1.0

Max Pkg Ht (Inches)	TI Limit
4 to 15	5.0
>15 to 21	4.0
>21 to 27	3.0
>27 to 35	2.0
>35 to 43	1.0

Max Pkg Ht (Inches)	TI Limit
4 to 9	6.0
>9 to 15	5.0
>15 to 21	4.0
>21 to 27	3.0
>27 to 35	2.0
>35 to 43	1.0

CHART 56(48 to 79)

CHART 56(80 to 111)

CHART 56(112 to 135)

Max Pkg Ht (Inches)	TI Limit
4 to 44	1.0

Max Pkg Ht (Inches)	TI Limit
4 to 36	2.0
>36 to 44	1.0

Max Pkg Ht (Inches)	TI Limit
4 to 28	3.0
>28 to 36	2.0
>36 to 44	1.0

# APPENDIX C.

56(136 to 159)

58(48 to 79)

CHART 56(136 to 159)

Max Pkg Ht (Inches)	TI Limit
4 to 22	4.0
>22 to 28	3.0
>28 to 36	2.0
>36 to 44	1.0

CHART 56(160 to 183)

Max Pkg Ht (Inches)	TI Limit
4 to 16	5.0
>16 to 22	4.0
>22 to 28	3.0
>28 to 36	2.0
>36 to 44	1.0

CHART 56(184 to 207)

Max Pkg Ht (Inches)	TI Limit
4 to 10	6.0
>10 to 16	5.0
>16 to 22	4.0
>22 to 28	3.0
>28 to 36	2.0
>36 to 44	1.0

CHART 56(208 or more)

Max Pkg Ht (Inches)	TI Limit
4	7.0
>4 to 10	6.0
>10 to 16	5.0
>16 to 22	4.0
>22 to 28	3.0
>28 to 36	2.0
>36 to 44	1.0

CHART 57(48 to 79)

Max Pkg Ht (Inches)	TI Limit
4 to 45	1.0

CHART 57(80 to 111)

Max Pkg Ht (Inches)	TI Limit
4 to 37	2.0
>37 to 45	1.0

CHART 57(112 to 135)

Max Pkg Ht (Inches)	TI Limit
4 to 29	3.0
>29 to 37	2.0
>37 to 45	1.0

CHART 57(136 to 159)

Max Pkg Ht (Inches)	TI Limit
4 to 23	4.0
>23 to 29	3.0
>29 to 37	2.0
>37 to 45	1.0

CHART 57(160 to 183)

Max Pkg Ht (Inches)	TI Limit
4 to 17	5.0
>17 to 23	4.0
>23 to 29	3.0
>29 to 37	2.0
>37 to 45	1.0

CHART 57(184 to 207)

Max Pkg Ht (Inches)	TI Limit
4 to 11	6.0
>11 to 17	5.0
>17 to 23	4.0
>23 to 29	3.0
>29 to 37	2.0
>37 to 45	1.0

CHART 57(208 or more)

Max Pkg Ht (Inches)	TI Limit
4 to 5	7.0
>5 to 11	6.0
>11 to 17	5.0
>17 to 23	4.0
>23 to 29	3.0
>29 to 37	2.0
>37 to 45	1.0

CHART 58(48 to 79)

Max Pkg Ht (Inches)	TI Limit
4 to 46	1.0

58(80 to 111)

## APPENDIX C.

59(184 to 207)

CHART 58(80 to 111)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 38	2.0
>38 to 46	1.0

CHART 58(112 to 135)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 30	3.0
>30 to 38	2.0
>38 to 46	1.0

CHART 58(136 to 159)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 24	4.0
>24 to 30	3.0
>30 to 38	2.0
>38 to 46	1.0

CHART 58(160 to 183)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 18	5.0
>18 to 24	4.0
>24 to 30	3.0
>30 to 38	2.0
>38 to 46	1.0

CHART 58(184 to 207)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 12	6.0
>12 to 18	5.0
>18 to 24	4.0
>24 to 30	3.0
>30 to 38	2.0
>38 to 46	1.0

CHART 58(208 or more)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 6	7.0
>6 to 12	6.0
>12 to 18	5.0
>18 to 24	4.0
>24 to 30	3.0
>30 to 38	2.0
>38 to 46	1.0

CHART 59(48 to 79)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 47	1.0

CHART 59(80 to 111)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 39	2.0
>39 to 47	1.0

CHART 59(112 to 135)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 31	3.0
>31 to 39	2.0
>39 to 47	1.0

CHART 59(136 to 159)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 25	4.0
>25 to 31	3.0
>31 to 39	2.0
>39 to 47	1.0

CHART 59(160 to 183)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 19	5.0
>19 to 25	4.0
>25 to 31	3.0
>31 to 39	2.0
>39 to 47	1.0

CHART 59(184 to 207)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 13	6.0
>13 to 19	5.0
>19 to 25	4.0
>25 to 31	3.0
>31 to 39	2.0
>39 to 47	1.0

# APPENDIX C.

59(208 or more)

61(136 to 159)

CHART 59(208 or more)

Max Pkg Ht (Inches)	TI Limit
4 to 7	7.0
>7 to 13	6.0
>13 to 19	5.0
>19 to 25	4.0
>25 to 31	3.0
>31 to 39	2.0
>39 to 47	1.0

CHART 60(48 to 79)

Max Pkg Ht (Inches)	TI Limit
4 to 48	1.0

CHART 60(80 to 111)

Max Pkg Ht (Inches)	TI Limit
4 to 40	2.0
>40 to 48	1.0

CHART 60(112 to 135)

Max Pkg Ht (Inches)	TI Limit
4 to 32	3.0
>32 to 40	2.0
>40 to 48	1.0

CHART 60(136 to 159)

Max Pkg Ht (Inches)	TI Limit
4 to 26	4.0
>26 to 32	3.0
>32 to 40	2.0
>40 to 48	1.0

CHART 60(160 to 183)

Max Pkg Ht (Inches)	TI Limit
4 to 20	5.0
>20 to 26	4.0
>26 to 32	3.0
>32 to 40	2.0
>40 to 48	1.0

CHART 60(184 to 207)

Max Pkg Ht (Inches)	TI Limit
4 to 14	6.0
>14 to 20	5.0
>20 to 26	4.0
>26 to 32	3.0
>32 to 40	2.0
>40 to 48	1.0

CHART 60(208 or more)

Max Pkg Ht (Inches)	TI Limit
4 to 8	7.0
>8 to 14	6.0
>14 to 20	5.0
>20 to 26	4.0
>26 to 32	3.0
>32 to 40	2.0
>40 to 48	1.0

CHART 61(48 to 79)

Max Pkg Ht (Inches)	TI Limit
4 to 49	1.0

CHART 61(80 to 111)

Max Pkg Ht (Inches)	TI Limit
4 to 41	2.0
>41 to 49	1.0

CHART 61(112 to 135)

Max Pkg Ht (Inches)	TI Limit
4 to 33	3.0
>33 to 41	2.0
>41 to 49	1.0

CHART 61(136 to 159)

Max Pkg Ht (Inches)	TI Limit
4 to 27	4.0
>27 to 33	3.0
>33 to 41	2.0
>41 to 49	1.0

# APPENDIX C.

61(160 to 183)

62(160 to 183)

CHART 61(160 to 183)

Max Pkg Ht (Inches)	TI Limit
4 to 21	5.0
>21 to 27	4.0
>27 to 33	3.0
>33 to 41	2.0
>41 to 49	1.0

CHART 61(184 to 207)

Max Pkg Ht (Inches)	TI Limit
4 to 15	6.0
>15 to 21	5.0
>21 to 27	4.0
>27 to 33	3.0
>33 to 41	2.0
>41 to 49	1.0

CHART 61(208 to 227)

Max Pkg Ht (Inches)	TI Limit
4 to 9	7.0
>9 to 15	6.0
>15 to 21	5.0
>21 to 27	4.0
>27 to 33	3.0
>33 to 41	2.0
>41 to 49	1.0

CHART 61(228 or more)

Max Pkg Ht (Inches)	TI Limit
4	8.0
>4 to 9	7.0
>9 to 15	6.0
>15 to 21	5.0
>21 to 27	4.0
>27 to 33	3.0
>33 to 41	2.0
>41 to 49	1.0

CHART 62(48 to 79)

Max Pkg Ht (Inches)	TI Limit
4 to 50	1.0

CHART 62(80 to 111)

Max Pkg Ht (Inches)	TI Limit
4 to 42	2.0
>42 to 50	1.0

CHART 62(112 to 135)

Max Pkg Ht (Inches)	TI Limit
4 to 34	3.0
>34 to 42	2.0
>42 to 50	1.0

CHART 62(136 to 159)

Max Pkg Ht (Inches)	TI Limit
4 to 28	4.0
>28 to 34	3.0
>34 to 42	2.0
>42 to 50	1.0

CHART 62(160 to 183)

Max Pkg Ht (Inches)	TI Limit
4 to 22	5.0
>22 to 28	4.0
>28 to 34	3.0
>34 to 42	2.0
>42 to 50	1.0

# APPENDIX C.

62(184 to 207)

64(48 to 79)

CHART 62(184 to 207)

Max Pkg Ht (Inches)	TI Limit
4 to 16	6.0
>16 to 22	5.0
>22 to 28	4.0
>28 to 34	3.0
>34 to 42	2.0
>42 to 50	1.0

CHART 62(208 to 227)

Max Pkg Ht (Inches)	TI Limit
4 to 10	7.0
>10 to 16	6.0
>16 to 22	5.0
>22 to 28	4.0
>28 to 34	3.0
>34 to 42	2.0
>42 to 50	1.0

CHART 62(228 or more)

Max Pkg Ht (Inches)	TI Limit
4 to 5	8.0
>5 to 10	7.0
>10 to 16	6.0
>16 to 22	5.0
>22 to 28	4.0
>28 to 34	3.0
>34 to 42	2.0
>42 to 50	1.0

CHART 63(48 to 79)

Max Pkg Ht (Inches)	TI Limit
4 to 51	1.0

CHART 63(80 to 111)

Max Pkg Ht (Inches)	TI Limit
4 to 43	2.0
>43 to 51	1.0

CHART 63(112 to 135)

Max Pkg Ht (Inches)	TI Limit
4 to 35	3.0
>35 to 43	2.0
>43 to 51	1.0

CHART 63(136 to 159)

Max Pkg Ht (Inches)	TI Limit
4 to 29	4.0
>29 to 35	3.0
>35 to 43	2.0
>43 to 51	1.0

CHART 63(160 to 183)

Max Pkg Ht (Inches)	TI Limit
4 to 23	5.0
>23 to 29	4.0
>29 to 35	3.0
>35 to 43	2.0
>43 to 51	1.0

CHART 63(184 to 207)

Max Pkg Ht (Inches)	TI Limit
4 to 17	6.0
>17 to 23	5.0
>23 to 29	4.0
>29 to 35	3.0
>35 to 43	2.0
>43 to 51	1.0

CHART 63(208 to 227)

Max Pkg Ht (Inches)	TI Limit
4 to 11	7.0
>11 to 17	6.0
>17 to 23	5.0
>23 to 29	4.0
>29 to 35	3.0
>35 to 43	2.0
>43 to 51	1.0

CHART 63(228 or more)

Max Pkg Ht (Inches)	TI Limit
4 to 6	8.0
>6 to 11	7.0
>11 to 17	6.0
>17 to 23	5.0
>23 to 29	4.0
>29 to 35	3.0
>35 to 43	2.0
>43 to 51	1.0

CHART 64(48 to 79)

Max Pkg Ht (Inches)	TI Limit
4 to 52	1.0



# APPENDIX C.

64(80 to 111)

65(160 to 183)

CHART 64(80 to 111)

Max Pkg Ht (Inches)	TI Limit
4 to 44	2.0
>44 to 52	1.0

CHART 64(112 to 135)

Max Pkg Ht (Inches)	TI Limit
4 to 36	3.0
>36 to 44	2.0
>44 to 52	1.0

CHART 64(136 to 159)

Max Pkg Ht (Inches)	TI Limit
4 to 30	4.0
>30 to 36	3.0
>36 to 44	2.0
>44 to 52	1.0

CHART 64(160 to 183)

Max Pkg Ht (Inches)	TI Limit
4 to 24	5.0
>24 to 30	4.0
>30 to 36	3.0
>36 to 44	2.0
>44 to 52	1.0

CHART 64(184 to 207)

Max Pkg Ht (Inches)	TI Limit
4 to 18	6.0
>18 to 24	5.0
>24 to 30	4.0
>30 to 36	3.0
>36 to 44	2.0
>44 to 52	1.0

CHART 64(208 to 227)

Max Pkg Ht (Inches)	TI Limit
4 to 12	7.0
>12 to 18	6.0
>18 to 24	5.0
>24 to 30	4.0
>30 to 36	3.0
>36 to 44	2.0
>44 to 52	1.0

CHART 64(228 or more)

Max Pkg Ht (Inches)	TI Limit
4 to 7	8.0
>7 to 12	7.0
>12 to 18	6.0
>18 to 24	5.0
>24 to 30	4.0
>30 to 36	3.0
>36 to 44	2.0
>44 to 52	1.0

CHART 65(48 to 79)

Max Pkg Ht (Inches)	TI Limit
4 to 53	1.0

CHART 65(80 to 111)

Max Pkg Ht (Inches)	TI Limit
4 to 45	2.0
>45 to 53	1.0

CHART 65(112 to 135)

Max Pkg Ht (Inches)	TI Limit
4 to 37	3.0
>37 to 45	2.0
>45 to 53	1.0

CHART 65(136 to 159)

Max Pkg Ht (Inches)	TI Limit
4 to 31	4.0
>31 to 37	3.0
>37 to 45	2.0
>45 to 53	1.0

CHART 65(160 to 183)

Max Pkg Ht (Inches)	TI Limit
4 to 25	5.0
>25 to 31	4.0
>31 to 37	3.0
>37 to 45	2.0
>45 to 53	1.0

# APPENDIX C.

65(184 to 207)

66(160 to 183)

CHART 65(184 to 207)

Max Pkg Ht (Inches)	TI Limit
4 to 19	6.0
>19 to 25	5.0
>25 to 31	4.0
>31 to 37	3.0
>37 to 45	2.0
>45 to 53	1.0

CHART 65(208 to 227)

Max Pkg Ht (Inches)	TI Limit
4 to 13	7.0
>13 to 19	6.0
>19 to 25	5.0
>25 to 31	4.0
>31 to 37	3.0
>37 to 45	2.0
>45 to 53	1.0

CHART 65(228 to 243)

Max Pkg Ht (Inches)	TI Limit
4 to 8	8.0
>8 to 13	7.0
>13 to 19	6.0
>19 to 25	5.0
>25 to 31	4.0
>31 to 37	3.0
>37 to 45	2.0
>45 to 53	1.0

CHART 65(244 or more)

Max Pkg Ht (Inches)	TI Limit
4	9.0
>4 to 8	8.0
>8 to 13	7.0
>13 to 19	6.0
>19 to 25	5.0
>25 to 31	4.0
>31 to 37	3.0
>37 to 45	2.0
>45 to 53	1.0

CHART 66(48 to 79)

Max Pkg Ht (Inches)	TI Limit
4 to 54	1.0

CHART 66(80 to 111)

Max Pkg Ht (Inches)	TI Limit
4 to 46	2.0
>46 to 54	1.0

CHART 66(112 to 135)

Max Pkg Ht (Inches)	TI Limit
4 to 38	3.0
>38 to 46	2.0
>46 to 54	1.0

CHART 66(136 to 159)

Max Pkg Ht (Inches)	TI Limit
4 to 32	4.0
>32 to 38	3.0
>38 to 46	2.0
>46 to 54	1.0

CHART 66(160 to 183)

Max Pkg Ht (Inches)	TI Limit
4 to 26	5.0
>26 to 32	4.0
>32 to 38	3.0
>38 to 46	2.0
>46 to 54	1.0

# APPENDIX C.

66(184 to 207)

67(160 to 183)

CHART 66(184 to 207)

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 20	6.0
>20 to 26	5.0
>26 to 32	4.0
>32 to 38	3.0
>38 to 46	2.0
>46 to 54	1.0

CHART 66(208 to 227)

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 14	7.0
>14 to 20	6.0
>20 to 26	5.0
>26 to 32	4.0
>32 to 38	3.0
>38 to 46	2.0
>46 to 54	1.0

CHART 66(228 to 243)

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 9	8.0
>9 to 14	7.0
>14 to 20	6.0
>20 to 26	5.0
>26 to 32	4.0
>32 to 38	3.0
>38 to 46	2.0
>46 to 54	1.0

CHART 66(244 or more)

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 5	9.0
>5 to 9	8.0
>9 to 14	7.0
>14 to 20	6.0
>20 to 26	5.0
>26 to 32	4.0
>32 to 38	3.0
>38 to 46	2.0
>46 to 54	1.0

CHART 67(48 to 79)

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 55	1.0

CHART 67(80 to 111)

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 47	2.0
>47 to 55	1.0

CHART 67(112 to 135)

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 39	3.0
>39 to 47	2.0
>47 to 55	1.0

CHART 67(136 to 159)

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 33	4.0
>33 to 39	3.0
>39 to 47	2.0
>47 to 55	1.0

CHART 67(160 to 183)

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 27	5.0
>27 to 33	4.0
>33 to 39	3.0
>39 to 47	2.0
>47 to 55	1.0

# APPENDIX C.

67(184 to 207)

68(160 to 183)

CHART 67(184 to 207)

Max Pkg Ht (Inches)	TI Limit
4 to 21	6.0
>21 to 27	5.0
>27 to 33	4.0
>33 to 39	3.0
>39 to 47	2.0
>47 to 55	1.0

CHART 67(208 to 227)

Max Pkg Ht (Inches)	TI Limit
4 to 15	7.0
>15 to 21	6.0
>21 to 27	5.0
>27 to 33	4.0
>33 to 39	3.0
>39 to 47	2.0
>47 to 55	1.0

CHART 67(228 to 243)

Max Pkg Ht (Inches)	TI Limit
4 to 10	8.0
>10 to 15	7.0
>15 to 21	6.0
>21 to 27	5.0
>27 to 33	4.0
>33 to 39	3.0
>39 to 47	2.0
>47 to 55	1.0

CHART 67(244 or more)

Max Pkg Ht (Inches)	TI Limit
4 to 6	9.0
>6 to 10	8.0
>10 to 15	7.0
>15 to 21	6.0
>21 to 27	5.0
>27 to 33	4.0
>33 to 39	3.0
>39 to 47	2.0
>47 to 55	1.0

CHART 68(48 to 79)

Max Pkg Ht (Inches)	TI Limit
4 to 56	1.0

CHART 68(80 to 111)

Max Pkg Ht (Inches)	TI Limit
4 to 48	2.0
>48 to 56	1.0

CHART 68(112 to 135)

Max Pkg Ht (Inches)	TI Limit
4 to 40	3.0
>40 to 48	2.0
>48 to 56	1.0

CHART 68(136 to 159)

Max Pkg Ht (Inches)	TI Limit
4 to 34	4.0
>34 to 40	3.0
>40 to 48	2.0
>48 to 56	1.0

CHART 68(160 to 183)

Max Pkg Ht (Inches)	TI Limit
4 to 28	5.0
>28 to 34	4.0
>34 to 40	3.0
>40 to 48	2.0
>48 to 56	1.0

# APPENDIX C.

68(184 to 207)

69(160 to 183)

CHART 68(184 to 207)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 22	6.0
>22 to 28	5.0
>28 to 34	4.0
>34 to 40	3.0
>40 to 48	2.0
>48 to 56	1.0

CHART 68(208 to 227)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 16	7.0
>16 to 22	6.0
>22 to 28	5.0
>28 to 34	4.0
>34 to 40	3.0
>40 to 48	2.0
>48 to 56	1.0

CHART 68(228 to 243)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 11	8.0
>11 to 16	7.0
>16 to 22	6.0
>22 to 28	5.0
>28 to 34	4.0
>34 to 40	3.0
>40 to 48	2.0
>48 to 56	1.0

CHART 68(244 or more)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 7	9.0
>7 to 11	8.0
>11 to 16	7.0
>16 to 22	6.0
>22 to 28	5.0
>28 to 34	4.0
>34 to 40	3.0
>40 to 48	2.0
>48 to 56	1.0

CHART 69(48 to 79)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 57	1.0

CHART 69(80 to 111)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 49	2.0
>49 to 57	1.0

CHART 69(112 to 135)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 41	3.0
>41 to 49	2.0
>49 to 57	1.0

CHART 69(136 to 159)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 35	4.0
>35 to 41	3.0
>41 to 49	2.0
>49 to 57	1.0

CHART 69(160 to 183)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 29	5.0
>29 to 35	4.0
>35 to 41	3.0
>41 to 49	2.0
>49 to 57	1.0

# APPENDIX C.

69(184 to 207)

70(136 to 159)

CHART 69(184 to 207)

Max Pkg Ht (Inches)	TI Limit
4 to 23	6.0
>23 to 29	5.0
>29 to 35	4.0
>35 to 41	3.0
>41 to 49	2.0
>49 to 57	1.0

CHART 69(208 to 227)

Max Pkg Ht (Inches)	TI Limit
4 to 17	7.0
>17 to 23	6.0
>23 to 29	5.0
>29 to 35	4.0
>35 to 41	3.0
>41 to 49	2.0
>49 to 57	1.0

CHART 69(228 to 243)

Max Pkg Ht (Inches)	TI Limit
4 to 12	8.0
>12 to 17	7.0
>17 to 23	6.0
>23 to 29	5.0
>29 to 35	4.0
>35 to 41	3.0
>41 to 49	2.0
>49 to 57	1.0

CHART 69(244 to 259)

Max Pkg Ht (Inches)	TI Limit
4 to 8	9.0
>8 to 12	8.0
>12 to 17	7.0
>17 to 23	6.0
>23 to 29	5.0
>29 to 35	4.0
>35 to 41	3.0
>41 to 49	2.0
>49 to 57	1.0

CHART 69(260 or more)

Max Pkg Ht (Inches)	TI Limit
4	10.0
>4 to 8	9.0
>8 to 12	8.0
>12 to 17	7.0
>17 to 23	6.0
>23 to 29	5.0
>29 to 35	4.0
>35 to 41	3.0
>41 to 49	2.0
>49 to 57	1.0

CHART 70(48 to 79)

Max Pkg Ht (Inches)	TI Limit
4 to 58	1.0

CHART 70(80 to 111)

Max Pkg Ht (Inches)	TI Limit
4 to 50	2.0
>50 to 58	1.0

CHART 70(112 to 135)

Max Pkg Ht (Inches)	TI Limit
4 to 42	3.0
>42 to 50	2.0
>50 to 58	1.0

CHART 70(136 to 159)

Max Pkg Ht (Inches)	TI Limit
4 to 36	4.0
>36 to 42	3.0
>42 to 50	2.0
>50 to 58	1.0

# APPENDIX C.

70(160 to 183)

71(184 to 207)

CHART 70(160 to 183)

CHART 70(184 to 207)

CHART 70(208 to 227)

Max Pkg Ht (Inches)	TI Limit
4 to 30	5.0
>30 to 36	4.0
>36 to 42	3.0
>42 to 50	2.0
>50 to 58	1.0

Max Pkg Ht (Inches)	TI Limit
4 to 24	6.0
>24 to 30	5.0
>30 to 36	4.0
>36 to 42	3.0
>42 to 50	2.0
>50 to 58	1.0

Max Pkg Ht (Inches)	TI Limit
4 to 18	7.0
>18 to 24	6.0
>24 to 30	5.0
>30 to 36	4.0
>36 to 42	3.0
>42 to 50	2.0
>50 to 58	1.0

CHART 70(228 to 243)

CHART 70(244 to 259)

CHART 70(260 or more)

Max Pkg Ht (Inches)	TI Limit
4 to 13	8.0
>13 to 18	7.0
>18 to 24	6.0
>24 to 30	5.0
>30 to 36	4.0
>36 to 42	3.0
>42 to 50	2.0
>50 to 58	1.0

Max Pkg Ht (Inches)	TI Limit
4 to 9	9.0
>9 to 13	8.0
>13 to 18	7.0
>18 to 24	6.0
>24 to 30	5.0
>30 to 36	4.0
>36 to 42	3.0
>42 to 50	2.0
>50 to 58	1.0

Max Pkg Ht (Inches)	TI Limit
4 to 5	10.0
>5 to 9	9.0
>9 to 13	8.0
>13 to 18	7.0
>18 to 24	6.0
>24 to 30	5.0
>30 to 36	4.0
>36 to 42	3.0
>42 to 50	2.0
>50 to 58	1.0

CHART 71(48 to 79)

CHART 71(80 to 111)

CHART 71(112 to 135)

Max Pkg Ht (Inches)	TI Limit
4 to 59	1.0

Max Pkg Ht (Inches)	TI Limit
4 to 51	2.0
>51 to 59	1.0

Max Pkg Ht (Inches)	TI Limit
4 to 43	3.0
>43 to 51	2.0
>51 to 59	1.0

CHART 71(136 to 159)

CHART 71(160 to 183)

CHART 71(184 to 207)

Max Pkg Ht (Inches)	TI Limit
4 to 37	4.0
>37 to 43	3.0
>43 to 51	2.0
>51 to 59	1.0

Max Pkg Ht (Inches)	TI Limit
4 to 31	5.0
>31 to 37	4.0
>37 to 43	3.0
>43 to 51	2.0
>51 to 59	1.0

Max Pkg Ht (Inches)	TI Limit
4 to 25	6.0
>25 to 31	5.0
>31 to 37	4.0
>37 to 43	3.0
>43 to 51	2.0
>51 to 59	1.0

# APPENDIX C.

71(208 to 227)

72(160 to 183)

CHART 71(208 to 227)

Max Pkg Ht (Inches)	TI Limit
4 to 19	7.0
>19 to 25	6.0
>25 to 31	5.0
>31 to 37	4.0
>37 to 43	3.0
>43 to 51	2.0
>51 to 59	1.0

CHART 71(228 to 243)

Max Pkg Ht (Inches)	TI Limit
4 to 14	8.0
>14 to 19	7.0
>19 to 25	6.0
>25 to 31	5.0
>31 to 37	4.0
>37 to 43	3.0
>43 to 51	2.0
>51 to 59	1.0

CHART 71(244 to 259)

Max Pkg Ht (Inches)	TI Limit
4 to 10	9.0
>10 to 14	8.0
>14 to 19	7.0
>19 to 25	6.0
>25 to 31	5.0
>31 to 37	4.0
>37 to 43	3.0
>43 to 51	2.0
>51 to 59	1.0

CHART 71(260 or more)

Max Pkg Ht (Inches)	TI Limit
4 to 6	10.0
>6 to 10	9.0
>10 to 14	8.0
>14 to 19	7.0
>19 to 25	6.0
>25 to 31	5.0
>31 to 37	4.0
>37 to 43	3.0
>43 to 51	2.0
>51 to 59	1.0

CHART 72(48 to 79)

Max Pkg Ht (Inches)	TI Limit
4 to 60	1.0

CHART 72(80 to 111)

Max Pkg Ht (Inches)	TI Limit
4 to 52	2.0
>52 to 60	1.0

CHART 72(112 to 135)

Max Pkg Ht (Inches)	TI Limit
4 to 44	3.0
>44 to 52	2.0
>52 to 60	1.0

CHART 72(136 to 159)

Max Pkg Ht (Inches)	TI Limit
4 to 38	4.0
>38 to 44	3.0
>44 to 52	2.0
>52 to 60	1.0

CHART 72(160 to 183)

Max Pkg Ht (Inches)	TI Limit
4 to 32	5.0
>32 to 38	4.0
>38 to 44	3.0
>44 to 52	2.0
>52 to 60	1.0



# APPENDIX C.

72(184 to 207)

73(136 to 159)

CHART 72(184 to 207)

Max Pkg Ht (Inches)	TI Limit
4 to 26	6.0
>26 to 32	5.0
>32 to 38	4.0
>38 to 44	3.0
>44 to 52	2.0
>52 to 60	1.0

CHART 72(208 to 227)

Max Pkg Ht (Inches)	TI Limit
4 to 20	7.0
>20 to 26	6.0
>26 to 32	5.0
>32 to 38	4.0
>38 to 44	3.0
>44 to 52	2.0
>52 to 60	1.0

CHART 72(228 to 243)

Max Pkg Ht (Inches)	TI Limit
4 to 15	8.0
>15 to 20	7.0
>20 to 26	6.0
>26 to 32	5.0
>32 to 38	4.0
>38 to 44	3.0
>44 to 52	2.0
>52 to 60	1.0

CHART 72(244 to 259)

Max Pkg Ht (Inches)	TI Limit
4 to 11	9.0
>11 to 15	8.0
>15 to 20	7.0
>20 to 26	6.0
>26 to 32	5.0
>32 to 38	4.0
>38 to 44	3.0
>44 to 52	2.0
>52 to 60	1.0

CHART 72(260 or more)

Max Pkg Ht (Inches)	TI Limit
4 to 7	10.0
>7 to 11	9.0
>11 to 15	8.0
>15 to 20	7.0
>20 to 26	6.0
>26 to 32	5.0
>32 to 38	4.0
>38 to 44	3.0
>44 to 52	2.0
>52 to 60	1.0

CHART 73(48 to 79)

Max Pkg Ht (Inches)	TI Limit
4 to 61	1.0

CHART 73(80 to 111)

Max Pkg Ht (Inches)	TI Limit
4 to 53	2.0
>53 to 61	1.0

CHART 73(112 to 135)

Max Pkg Ht (Inches)	TI Limit
4 to 45	3.0
>45 to 53	2.0
>53 to 61	1.0

CHART 73(136 to 159)

Max Pkg Ht (Inches)	TI Limit
4 to 39	4.0
>39 to 45	3.0
>45 to 53	2.0
>53 to 61	1.0

# APPENDIX C.

73(160 to 183)

74(80 to 111)

CHART 73(160 to 183)

Max Pkg Ht (Inches)	TI Limit
4 to 33	5.0
>33 to 39	4.0
>39 to 45	3.0
>45 to 53	2.0
>53 to 61	1.0

CHART 73(184 to 207)

Max Pkg Ht (Inches)	TI Limit
4 to 27	6.0
>27 to 33	5.0
>33 to 39	4.0
>39 to 45	3.0
>45 to 53	2.0
>53 to 61	1.0

CHART 73(208 to 227)

Max Pkg Ht (Inches)	TI Limit
4 to 21	7.0
>21 to 27	6.0
>27 to 33	5.0
>33 to 39	4.0
>39 to 45	3.0
>45 to 53	2.0
>53 to 61	1.0

CHART 73(228 to 243)

Max Pkg Ht (Inches)	TI Limit
4 to 16	8.0
>16 to 21	7.0
>21 to 27	6.0
>27 to 33	5.0
>33 to 39	4.0
>39 to 45	3.0
>45 to 53	2.0
>53 to 61	1.0

CHART 73(244 to 259)

Max Pkg Ht (Inches)	TI Limit
4 to 12	9.0
>12 to 16	8.0
>16 to 21	7.0
>21 to 27	6.0
>27 to 33	5.0
>33 to 39	4.0
>39 to 45	3.0
>45 to 53	2.0
>53 to 61	1.0

CHART 73(260 to 275)

Max Pkg Ht (Inches)	TI Limit
4 to 8	10.0
>8 to 12	9.0
>12 to 16	8.0
>16 to 21	7.0
>21 to 27	6.0
>27 to 33	5.0
>33 to 39	4.0
>39 to 45	3.0
>45 to 53	2.0
>53 to 61	1.0

CHART 73(276 or more)

Max Pkg Ht (Inches)	TI Limit
4	11.0
>4 to 8	10.0
>8 to 12	9.0
>12 to 16	8.0
>16 to 21	7.0
>21 to 27	6.0
>27 to 33	5.0
>33 to 39	4.0
>39 to 45	3.0
>45 to 53	2.0
>53 to 61	1.0

CHART 74(48 to 79)

Max Pkg Ht (Inches)	TI Limit
4 to 62	1.0

CHART 74(80 to 111)

Max Pkg Ht (Inches)	TI Limit
4 to 54	2.0
>54 to 62	1.0

# APPENDIX C.

74(112 to 135)

75(112 to 135)

CHART 74(112 to 135)

Max Pkg Ht (Inches)	TI Limit
4 to 46	3.0
>46 to 54	2.0
>54 to 62	1.0

CHART 74(136 to 159)

Max Pkg Ht (Inches)	TI Limit
4 to 40	4.0
>40 to 46	3.0
>46 to 54	2.0
>54 to 62	1.0

CHART 74(160 to 183)

Max Pkg Ht (Inches)	TI Limit
4 to 34	5.0
>34 to 40	4.0
>40 to 46	3.0
>46 to 54	2.0
>54 to 62	1.0

CHART 74(184 to 207)

Max Pkg Ht (Inches)	TI Limit
4 to 28	6.0
>28 to 34	5.0
>34 to 40	4.0
>40 to 46	3.0
>46 to 54	2.0
>54 to 62	1.0

CHART 74(208 to 227)

Max Pkg Ht (Inches)	TI Limit
4 to 22	7.0
>22 to 28	6.0
>28 to 34	5.0
>34 to 40	4.0
>40 to 46	3.0
>46 to 54	2.0
>54 to 62	1.0

CHART 74(228 to 243)

Max Pkg Ht (Inches)	TI Limit
4 to 17	8.0
>17 to 22	7.0
>22 to 28	6.0
>28 to 34	5.0
>34 to 40	4.0
>40 to 46	3.0
>46 to 54	2.0
>54 to 62	1.0

CHART 74(244 to 259)

Max Pkg Ht (Inches)	TI Limit
4 to 13	9.0
>13 to 17	8.0
>17 to 22	7.0
>22 to 28	6.0
>28 to 34	5.0
>34 to 40	4.0
>40 to 46	3.0
>46 to 54	2.0
>54 to 62	1.0

CHART 74(260 to 275)

Max Pkg Ht (Inches)	TI Limit
4 to 9	10.0
>9 to 13	9.0
>13 to 17	8.0
>17 to 22	7.0
>22 to 28	6.0
>28 to 34	5.0
>34 to 40	4.0
>40 to 46	3.0
>46 to 54	2.0
>54 to 62	1.0

CHART 74(276 or more)

Max Pkg Ht (Inches)	TI Limit
4 to 5	11.0
>5 to 9	10.0
>9 to 13	9.0
>13 to 17	8.0
>17 to 22	7.0
>22 to 28	6.0
>28 to 34	5.0
>34 to 40	4.0
>40 to 46	3.0
>46 to 54	2.0
>54 to 62	1.0

CHART 75(48 to 79)

Max Pkg Ht (Inches)	TI Limit
4 to 63	1.0

CHART 75(80 to 111)

Max Pkg Ht (Inches)	TI Limit
4 to 55	2.0
>55 to 63	1.0

CHART 75(112 to 135)

Max Pkg Ht (Inches)	TI Limit
4 to 47	3.0
>47 to 55	2.0
>55 to 63	1.0

# APPENDIX C.

75(136 to 159)

76(48 to 79)

CHART 75(136 to 159)

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 41	4.0
>41 to 47	3.0
>47 to 55	2.0
>55 to 63	1.0

CHART 75(160 to 183)

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 35	5.0
>35 to 41	4.0
>41 to 47	3.0
>47 to 55	2.0
>55 to 63	1.0

CHART 75(184 to 207)

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 29	6.0
>29 to 35	5.0
>35 to 41	4.0
>41 to 47	3.0
>47 to 55	2.0
>55 to 63	1.0

CHART 75(208 to 227)

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 23	7.0
>23 to 29	6.0
>29 to 35	5.0
>35 to 41	4.0
>41 to 47	3.0
>47 to 55	2.0
>55 to 63	1.0

CHART 75(228 to 243)

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 18	8.0
>18 to 23	7.0
>23 to 29	6.0
>29 to 35	5.0
>35 to 41	4.0
>41 to 47	3.0
>47 to 55	2.0
>55 to 63	1.0

CHART 75(244 to 259)

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 14	9.0
>14 to 18	8.0
>18 to 23	7.0
>23 to 29	6.0
>29 to 35	5.0
>35 to 41	4.0
>41 to 47	3.0
>47 to 55	2.0
>55 to 63	1.0

CHART 75(260 to 275)

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 10	10.0
>10 to 14	9.0
>14 to 18	8.0
>18 to 23	7.0
>23 to 29	6.0
>29 to 35	5.0
>35 to 41	4.0
>41 to 47	3.0
>47 to 55	2.0
>55 to 63	1.0

CHART 75(276 or more)

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 6	11.0
>6 to 10	10.0
>10 to 14	9.0
>14 to 18	8.0
>18 to 23	7.0
>23 to 29	6.0
>29 to 35	5.0
>35 to 41	4.0
>41 to 47	3.0
>47 to 55	2.0
>55 to 63	1.0

CHART 76(48 to 79)

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 64	1.0

# APPENDIX C.

76(80 to 111)

76(260 to 275)

CHART 76(80 to 111)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 56	2.0
>56 to 64	1.0

CHART 76(112 to 135)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 48	3.0
>48 to 56	2.0
>56 to 64	1.0

CHART 76(136 to 159)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 42	4.0
>42 to 48	3.0
>48 to 56	2.0
>56 to 64	1.0

CHART 76(160 to 183)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 36	5.0
>36 to 42	4.0
>42 to 48	3.0
>48 to 56	2.0
>56 to 64	1.0

CHART 76(184 to 207)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 30	6.0
>30 to 36	5.0
>36 to 42	4.0
>42 to 48	3.0
>48 to 56	2.0
>56 to 64	1.0

CHART 76(208 to 227)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 24	7.0
>24 to 30	6.0
>30 to 36	5.0
>36 to 42	4.0
>42 to 48	3.0
>48 to 56	2.0
>56 to 64	1.0

CHART 76(228 to 243)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 19	8.0
>19 to 24	7.0
>24 to 30	6.0
>30 to 36	5.0
>36 to 42	4.0
>42 to 48	3.0
>48 to 56	2.0
>56 to 64	1.0

CHART 76(244 to 259)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 15	9.0
>15 to 19	8.0
>19 to 24	7.0
>24 to 30	6.0
>30 to 36	5.0
>36 to 42	4.0
>42 to 48	3.0
>48 to 56	2.0
>56 to 64	1.0

CHART 76(260 to 275)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 11	10.0
>11 to 15	9.0
>15 to 19	8.0
>19 to 24	7.0
>24 to 30	6.0
>30 to 36	5.0
>36 to 42	4.0
>42 to 48	3.0
>48 to 56	2.0
>56 to 64	1.0

# APPENDIX C.

76 (276 or more)

77 (228 to 243)

CHART 76 (276 or more)

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 7	11.0
>7 to 11	10.0
>11 to 15	9.0
>15 to 19	8.0
>19 to 24	7.0
>24 to 30	6.0
>30 to 36	5.0
>36 to 42	4.0
>42 to 48	3.0
>48 to 56	2.0
>56 to 64	1.0

CHART 77 (48 to 79)

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 65	1.0

CHART 77 (80 to 111)

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 57	2.0
>57 to 65	1.0

CHART 77 (112 to 135)

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 49	3.0
>49 to 57	2.0
>57 to 65	1.0

CHART 77 (136 to 159)

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 43	4.0
>43 to 49	3.0
>49 to 57	2.0
>57 to 65	1.0

CHART 77 (160 to 183)

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 37	5.0
>37 to 43	4.0
>43 to 49	3.0
>49 to 57	2.0
>57 to 65	1.0

CHART 77 (184 to 207)

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 31	6.0
>31 to 37	5.0
>37 to 43	4.0
>43 to 49	3.0
>49 to 57	2.0
>57 to 65	1.0

CHART 77 (208 to 227)

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 25	7.0
>25 to 31	6.0
>31 to 37	5.0
>37 to 43	4.0
>43 to 49	3.0
>49 to 57	2.0
>57 to 65	1.0

CHART 77 (228 to 243)

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 20	8.0
>20 to 25	7.0
>25 to 31	6.0
>31 to 37	5.0
>37 to 43	4.0
>43 to 49	3.0
>49 to 57	2.0
>57 to 65	1.0

# APPENDIX C.

77(244 to 259)

78(160 to 183)

CHART 77(244 to 259)

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 16	9.0
>16 to 20	8.0
>20 to 25	7.0
>25 to 31	6.0
>31 to 37	5.0
>37 to 43	4.0
>43 to 49	3.0
>49 to 57	2.0
>57 to 65	1.0

CHART 77(260 to 275)

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 12	10.0
>12 to 16	9.0
>16 to 20	8.0
>20 to 25	7.0
>25 to 31	6.0
>31 to 37	5.0
>37 to 43	4.0
>43 to 49	3.0
>49 to 57	2.0
>57 to 65	1.0

CHART 77(276 to 291)

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 8	11.0
>8 to 12	10.0
>12 to 16	9.0
>16 to 20	8.0
>20 to 25	7.0
>25 to 31	6.0
>31 to 37	5.0
>37 to 43	4.0
>43 to 49	3.0
>49 to 57	2.0
>57 to 65	1.0

CHART 77(292 or more)

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4	12.0
>4 to 8	11.0
>8 to 12	10.0
>12 to 16	9.0
>16 to 20	8.0
>20 to 25	7.0
>25 to 31	6.0
>31 to 37	5.0
>37 to 43	4.0
>43 to 49	3.0
>49 to 57	2.0
>57 to 65	1.0

CHART 78(48 to 79)

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 66	1.0

CHART 78(80 to 111)

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 58	2.0
>58 to 66	1.0

CHART 78(112 to 135)

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 50	3.0
>50 to 58	2.0
>58 to 66	1.0

CHART 78(136 to 159)

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 44	4.0
>44 to 50	3.0
>50 to 58	2.0
>58 to 66	1.0

CHART 78(160 to 183)

<u>Max Pkg Ht (Inches)</u>	<u>TI Limit</u>
4 to 38	5.0
>38 to 44	4.0
>44 to 50	3.0
>50 to 58	2.0
>58 to 66	1.0

# APPENDIX C.

78(184 to 207)

79(80 to 111)

CHART 78(184 to 207)

Max Pkg Ht (Inches)	TI Limit
4 to 32	6.0
>32 to 38	5.0
>38 to 44	4.0
>44 to 50	3.0
>50 to 58	2.0
>58 to 66	1.0

CHART 78(208 to 227)

Max Pkg Ht (Inches)	TI Limit
4 to 26	7.0
>26 to 32	6.0
>32 to 38	5.0
>38 to 44	4.0
>44 to 50	3.0
>50 to 58	2.0
>58 to 66	1.0

CHART 78(228 to 243)

Max Pkg Ht (Inches)	TI Limit
4 to 21	8.0
>21 to 26	7.0
>26 to 32	6.0
>32 to 38	5.0
>38 to 44	4.0
>44 to 50	3.0
>50 to 58	2.0
>58 to 66	1.0

CHART 78(244 to 259)

Max Pkg Ht (Inches)	TI Limit
4 to 17	9.0
>17 to 21	8.0
>21 to 26	7.0
>26 to 32	6.0
>32 to 38	5.0
>38 to 44	4.0
>44 to 50	3.0
>50 to 58	2.0
>58 to 66	1.0

CHART 78(260 to 275)

Max Pkg Ht (Inches)	TI Limit
4 to 13	10.0
>13 to 17	9.0
>17 to 21	8.0
>21 to 26	7.0
>26 to 32	6.0
>32 to 38	5.0
>38 to 44	4.0
>44 to 50	3.0
>50 to 58	2.0
>58 to 66	1.0

CHART 78(276 to 291)

Max Pkg Ht (Inches)	TI Limit
4 to 9	11.0
>9 to 13	10.0
>13 to 17	9.0
>17 to 21	8.0
>21 to 26	7.0
>26 to 32	6.0
>32 to 38	5.0
>38 to 44	4.0
>44 to 50	3.0
>50 to 58	2.0
>58 to 66	1.0

CHART 78(292 or more)

Max Pkg Ht (Inches)	TI Limit
4 to 5	12.0
>5 to 9	11.0
>9 to 13	10.0
>13 to 17	9.0
>17 to 21	8.0
>21 to 26	7.0
>26 to 32	6.0
>32 to 38	5.0
>38 to 44	4.0
>44 to 50	3.0
>50 to 58	2.0
>58 to 66	1.0

CHART 79(48 to 79)

Max Pkg Ht (Inches)	TI Limit
4 to 67	1.0

CHART 79(80 to 111)

Max Pkg Ht (Inches)	TI Limit
4 to 59	2.0
>59 to 67	1.0



# APPENDIX C.

79(112 to 135)

79(276 to 291)

CHART 79(112 to 135)

Max Pkg Ht (Inches)	TI Limit
4 to 51	3.0
>51 to 59	2.0
>59 to 67	1.0

CHART 79(136 to 159)

Max Pkg Ht (Inches)	TI Limit
4 to 45	4.0
>45 to 51	3.0
>51 to 59	2.0
>59 to 67	1.0

CHART 79(160 to 183)

Max Pkg Ht (Inches)	TI Limit
4 to 39	5.0
>39 to 45	4.0
>45 to 51	3.0
>51 to 59	2.0
>59 to 67	1.0

CHART 79(184 to 207)

Max Pkg Ht (Inches)	TI Limit
4 to 33	6.0
>33 to 39	5.0
>39 to 45	4.0
>45 to 51	3.0
>51 to 59	2.0
>59 to 67	1.0

CHART 79(208 to 227)

Max Pkg Ht (Inches)	TI Limit
4 to 27	7.0
>27 to 33	6.0
>33 to 39	5.0
>39 to 45	4.0
>45 to 51	3.0
>51 to 59	2.0
>59 to 67	1.0

CHART 79(228 to 243)

Max Pkg Ht (Inches)	TI Limit
4 to 22	8.0
>22 to 27	7.0
>27 to 33	6.0
>33 to 39	5.0
>39 to 45	4.0
>45 to 51	3.0
>51 to 59	2.0
>59 to 67	1.0

CHART 79(244 to 259)

Max Pkg Ht (Inches)	TI Limit
4 to 18	9.0
>18 to 22	8.0
>22 to 27	7.0
>27 to 33	6.0
>33 to 39	5.0
>39 to 45	4.0
>45 to 51	3.0
>51 to 59	2.0
>59 to 67	1.0

CHART 79(260 to 275)

Max Pkg Ht (Inches)	TI Limit
4 to 14	10.0
>14 to 18	9.0
>18 to 22	8.0
>22 to 27	7.0
>27 to 33	6.0
>33 to 39	5.0
>39 to 45	4.0
>45 to 51	3.0
>51 to 59	2.0
>59 to 67	1.0

CHART 79(276 to 291)

Max Pkg Ht (Inches)	TI Limit
4 to 10	11.0
>10 to 14	10.0
>14 to 18	9.0
>18 to 22	8.0
>22 to 27	7.0
>27 to 33	6.0
>33 to 39	5.0
>39 to 45	4.0
>45 to 51	3.0
>51 to 59	2.0
>59 to 67	1.0

# APPENDIX C.

79(292 or more)

80(228 to 243)

CHART 79(292 or more)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 6	12.0
>6 to 10	11.0
>10 to 14	10.0
>14 to 18	9.0
>18 to 22	8.0
>22 to 27	7.0
>27 to 33	6.0
>33 to 39	5.0
>39 to 45	4.0
>45 to 51	3.0
>51 to 59	2.0
>59 to 67	1.0

CHART 80(48 to 79)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 68	1.0

CHART 80(80 to 111)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 60	2.0
>60 to 68	1.0

CHART 80(112 to 135)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 52	3.0
>52 to 60	2.0
>60 to 68	1.0

CHART 80(136 to 159)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 46	4.0
>46 to 52	3.0
>52 to 60	2.0
>60 to 68	1.0

CHART 80(160 to 183)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 40	5.0
>40 to 46	4.0
>46 to 52	3.0
>52 to 60	2.0
>60 to 68	1.0

CHART 80(184 to 207)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 34	6.0
>34 to 40	5.0
>40 to 46	4.0
>46 to 52	3.0
>52 to 60	2.0
>60 to 68	1.0

CHART 80(208 to 227)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 28	7.0
>28 to 34	6.0
>34 to 40	5.0
>40 to 46	4.0
>46 to 52	3.0
>52 to 60	2.0
>60 to 68	1.0

CHART 80(228 to 243)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 23	8.0
>23 to 28	7.0
>28 to 34	6.0
>34 to 40	5.0
>40 to 46	4.0
>46 to 52	3.0
>52 to 60	2.0
>60 to 68	1.0

# APPENDIX C.

80(244 to 259)

CHART 80(244 to 259)

Max Pkg Ht (Inches)	TI Limit
4 to 19	9.0
>19 to 23	8.0
>23 to 28	7.0
>28 to 34	6.0
>34 to 40	5.0
>40 to 46	4.0
>46 to 52	3.0
>52 to 60	2.0
>60 to 68	1.0

81(160 to 183)

CHART 80(276 to 291)

Max Pkg Ht (Inches)	TI Limit
4 to 11	11.0
>11 to 15	10.0
>15 to 19	9.0
>19 to 23	8.0
>23 to 28	7.0
>28 to 34	6.0
>34 to 40	5.0
>40 to 46	4.0
>46 to 52	3.0
>52 to 60	2.0
>60 to 68	1.0

CHART 80(292 or more)

Max Pkg Ht (Inches)	TI Limit
4 to 7	12.0
>7 to 11	11.0
>11 to 15	10.0
>15 to 19	9.0
>19 to 23	8.0
>23 to 28	7.0
>28 to 34	6.0
>34 to 40	5.0
>40 to 46	4.0
>46 to 52	3.0
>52 to 60	2.0
>60 to 68	1.0

CHART 81(48 to 79)

Max Pkg Ht (Inches)	TI Limit
4 to 69	1.0

CHART 81(80 to 111)

Max Pkg Ht (Inches)	TI Limit
4 to 61	2.0
>61 to 69	1.0

CHART 81(112 to 135)

Max Pkg Ht (Inches)	TI Limit
4 to 53	3.0
>53 to 61	2.0
>61 to 69	1.0

CHART 81(136 to 159)

Max Pkg Ht (Inches)	TI Limit
4 to 47	4.0
>47 to 53	3.0
>53 to 61	2.0
>61 to 69	1.0

CHART 81(160 to 183)

Max Pkg Ht (Inches)	TI Limit
4 to 41	5.0
>41 to 47	4.0
>47 to 53	3.0
>53 to 61	2.0
>61 to 69	1.0

# APPENDIX C.

81(184 to 207)

CHART 81(184 to 207)

Max Pkg Ht (Inches)	TI Limit
4 to 35	6.0
>35 to 41	5.0
>41 to 47	4.0
>47 to 53	3.0
>53 to 61	2.0
>61 to 69	1.0

82(48 to 79)

CHART 81(208 to 227)

Max Pkg Ht (Inches)	TI Limit
4 to 29	7.0
>29 to 35	6.0
>35 to 41	5.0
>41 to 47	4.0
>47 to 53	3.0
>53 to 61	2.0
>61 to 69	1.0

Max Pkg Ht (Inches)	TI Limit
4 to 24	8.0
>24 to 29	7.0
>29 to 35	6.0
>35 to 41	5.0
>41 to 47	4.0
>47 to 53	3.0
>53 to 61	2.0
>61 to 69	1.0

CHART 81(244 to 259)

Max Pkg Ht (Inches)	TI Limit
4 to 20	9.0
>20 to 24	8.0
>24 to 29	7.0
>29 to 35	6.0
>35 to 41	5.0
>41 to 47	4.0
>47 to 53	3.0
>53 to 61	2.0
>61 to 69	1.0

CHART 81(260 to 275)

Max Pkg Ht (Inches)	TI Limit
4 to 16	10.0
>16 to 20	9.0
>20 to 24	8.0
>24 to 29	7.0
>29 to 35	6.0
>35 to 41	5.0
>41 to 47	4.0
>47 to 53	3.0
>53 to 61	2.0
>61 to 69	1.0

CHART 81(276 to 291)

Max Pkg Ht (Inches)	TI Limit
4 to 12	11.0
>12 to 16	10.0
>16 to 20	9.0
>20 to 24	8.0
>24 to 29	7.0
>29 to 35	6.0
>35 to 41	5.0
>41 to 47	4.0
>47 to 53	3.0
>53 to 61	2.0
>61 to 69	1.0

CHART 81(292 to 307)

Max Pkg Ht (Inches)	TI Limit
4 to 8	12.0
>8 to 12	11.0
>12 to 16	10.0
>16 to 20	9.0
>20 to 24	8.0
>24 to 29	7.0
>29 to 35	6.0
>35 to 41	5.0
>41 to 47	4.0
>47 to 53	3.0
>53 to 61	2.0
>61 to 69	1.0

CHART 81(308 or more)

Max Pkg Ht (Inches)	TI Limit
4	13.0
>4 to 8	12.0
>8 to 12	11.0
>12 to 16	10.0
>16 to 20	9.0
>20 to 24	8.0
>24 to 29	7.0
>29 to 35	6.0
>35 to 41	5.0
>41 to 47	4.0
>47 to 53	3.0
>53 to 61	2.0
>61 to 69	1.0

CHART 82(48 to 79)

Max Pkg Ht (Inches)	TI Limit
4 to 70	1.0

# APPENDIX C.

82(80 to 111)

82(260 to 275)

CHART 82(80 to 111)

CHART 82(112 to 135)

CHART 82(136 to 159)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 62	2.0
>62 to 70	1.0

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 54	3.0
>54 to 62	2.0
>62 to 70	1.0

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 48	4.0
>48 to 54	3.0
>54 to 62	2.0
>62 to 70	1.0

CHART 82(160 to 183)

CHART 82(184 to 207)

CHART 82(208 to 227)

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 42	5.0
>42 to 48	4.0
>48 to 54	3.0
>54 to 62	2.0
>62 to 70	1.0

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 36	6.0
>36 to 42	5.0
>42 to 48	4.0
>48 to 54	3.0
>54 to 62	2.0
>62 to 70	1.0

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 30	7.0
>30 to 36	6.0
>36 to 42	5.0
>42 to 48	4.0
>48 to 54	3.0
>54 to 62	2.0
>62 to 70	1.0

CHART 82(228 to 243)

CHART 82(244 to 259)

CHART 82(260 to 275)

<u>Max Pkt Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 25	8.0
>25 to 30	7.0
>30 to 36	6.0
>36 to 42	5.0
>42 to 48	4.0
>48 to 54	3.0
>54 to 62	2.0
>62 to 70	1.0

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 21	9.0
>21 to 25	8.0
>25 to 30	7.0
>30 to 36	6.0
>36 to 42	5.0
>42 to 48	4.0
>48 to 54	3.0
>54 to 62	2.0
>62 to 70	1.0

<u>Max Pkg Ht</u> <u>(Inches)</u>	<u>TI</u> <u>Limit</u>
4 to 17	10.0
>17 to 21	9.0
>21 to 25	8.0
>25 to 30	7.0
>30 to 36	6.0
>36 to 42	5.0
>42 to 48	4.0
>48 to 54	3.0
>54 to 62	2.0
>62 to 70	1.0

# APPENDIX C.

82(276 to 291)

CHART 82(276 to 291)

Max Pkg Ht (Inches)	TI Limit
4 to 13	11.0
>13 to 17	10.0
>17 to 21	9.0
>21 to 25	8.0
>25 to 30	7.0
>30 to 36	6.0
>36 to 42	5.0
>42 to 48	4.0
>48 to 54	3.0
>54 to 62	2.0
>62 to 70	1.0

CHART 82(292 to 307)

Max Pkg Ht (Inches)	TI Limit
4 to 9	12.0
>9 to 13	11.0
>13 to 17	10.0
>17 to 21	9.0
>21 to 25	8.0
>25 to 30	7.0
>30 to 36	6.0
>36 to 42	5.0
>42 to 48	4.0
>48 to 54	3.0
>54 to 62	2.0
>62 to 70	1.0

82(308 or more)

CHART 82(308 or more)

Max Pkg Ht (Inches)	TI Limit
4 to 5	13.0
>5 to 9	12.0
>9 to 13	11.0
>13 to 17	10.0
>17 to 21	9.0
>21 to 25	8.0
>25 to 30	7.0
>30 to 36	6.0
>36 to 42	5.0
>42 to 48	4.0
>48 to 54	3.0
>54 to 62	2.0
>62 to 70	1.0